A Study on the Prority Channel Acquisition of Purchase Information in E-Commerce in South Korea*

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Abstract

Purpose: The purpose of this paper is to investigate the consumption behavior of consumers more closely and efficient purchasing channels of domestic e-commerce buyers by specifically analyzing the relationship between demographics and channels that are used first to acquire purchasing information during e-commerce. **Research design, data and methodology:** Korean Media Panel Survey performs 17 cities and provinces nationwide, and 4,537 panel households (all household members aged 6 or older) are surveyed, and a household visit interview is conducted. Correspondence analysis, one of the popular multivariate techniques, is exploited to explore the association between priority channel for acquisition of information and demographics. **Results:** The findings show that the considered demographics are closely associated with the priority channel for acquisition of purchase information. In particular, 'searching for portal sites' are closely relevant to 'more than 5 million won', 'device & machine control assembly', 'graduate school or higher', and '40-59', while 'searching for online open market' is linked with college graduate and '20-39'. **Conclusions:** The substantial contribution of this work is that by analyzing the association between demographics and priority channel for acquisition of purchase information in e-commerce in South Korea, we can discern the segmentation standard factor for e-commerce market and advance the subdivided market.

Keywords : Priority Channel, Demographics, Association, Correspondence

JEL Classification Code: C40, C81, M30

1. Introduction

Recently, the rate of increase in e-commerce use are gradually increasing, and the type of e-commerce is believed to be mainly through domestic online shopping malls. The main route for acquiring information before purchase shows different aspects depending on whether or not there is e-commerce experience. We can find that for respondents with e-commerce experience, most of the information is obtained online, while for respondents without e-commerce experience, the main route for acquiring purchase information is through family, friends, and other people around them. Smartphones are the most frequently purchased medium when using e-commerce, and for men and those under 55 years of age, the proportion of purchases using PCs/laptops tends to increase as age increases.

The most common route used by respondents with e-commerce experience to obtain related information before purchasing products or services is portal site search, followed by obtaining information through family, friends,

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and other people around them, and online open market search. The main route for acquiring general product purchase information is portal site search, with the highest rate, and respondents with e-commerce experience appear to obtain information through various routes online. It is understood that most e-commerce transactions are conducted through smartphones, and the payment rate using credit cards is the highest. In addition, the proportion of users of app cards and mobile simple payments, which are mobile-based payment methods, is also continuously increasing.

It turns out that the proportion of users of mobile simple payments such as Kakao Pay is increasing as they acquire purchase information through video platform searches, especially among younger age groups with a high rate of e-commerce experience. Users of e-commerce services can assume that everything from acquiring product purchase information to making payments is done online through mobile devices such as smartphones. As not only Korea's representative portal sites but also social network services expand their scope to services that enable online commerce, continuous changes are expected in the domestic e-commerce market.

In the case of TV home shopping, the baby boomers have a higher rate of using phone calls (38.5%) than the rate of using smartphones (36.5%), and the rate of direct TV purchases is relatively higher than that of other generations. On the other hand, the dependence on smartphones increases as generation X, millennials, and generation Z progressively decrease, and the ratio of phone calls or direct TV purchases decreases. However, in the case of online home shopping in Korea, direct overseas purchases, and transactions between individuals based on e-commerce platforms, smartphones are confirmed to be the dominant medium regardless of generation.

Compared to TV home shopping, the utilization rate of online shopping malls in Korea is relatively high, and although the utilization rate in 2019 and 2020 is not much different, the utilization rate increases especially in all generations in 2021. In terms of the utilization rate of domestic online shopping malls, millennials have always had the highest utilization rate over the past three years (91.5% in 2019, 92.1% in 20, 98.0% in 21), followed by Generation X, Generation Z, and baby boomers. The utilization rate of overseas direct purchases and transactions between individuals based on e-commerce platforms has been high for millennials over the past three years, similar for Generation X and Z, and rarely used by baby boomers.

Considering that Generation Z has minors with a very small proportion of economic activities, it is estimated that Generation Z has a higher utilization rate of transactions between individuals based on overseas direct purchase and e-commerce platforms than Generation X. As of 2021, the

channel that collects the most relevant information before using e-commerce and mail-order sales is portal search (35.7% for baby boomers, 54.9% for X generations, 61.7% for millennials, 50.2% for Z generations). In particular, baby boomers have a slightly higher rate of information acquisition through acquaintances than portal searches (36.3%). In addition, while the proportion of baby boomers using online channels (portal search, online open market, online shopping mall, SNS/blog, video platform) is relatively weak compared to other generations, the portion of information acquisition through offline channels (offline stores and acquaintances) is far ahead.

Millennials show a significantly different proportion of information acquisition from baby boomers. Millennials' acquisition of information through web page-based online channels (portals, open markets, etc.) is relatively high compared to other generations, while the proportion of information acquisition through acquaintance recommend-dations is very low. Generation Z has a very high proportion of information acquisition through platform sites such as portals and open markets, similar to other generations, but the proportion of information acquisition using microblogs (SNS and blogs) and video platforms is relatively distinct.

If investigating the relationship between e-commerce and information acquisition through mail order by generation (baby boom generation, X generation, Millennium generation, Z generation), 'searching for portal sites' accounts for more than half of the market share across all three generations except for baby boomers, followed by 'searching for online open markets' (about 20%). Especially, for baby boomers, acquaintance recommendations (36.3%), portal searches (35.7%), and offline visits such as department stores and road shops (17.8%) account for major information acquisition channels for mail-order sales.

Recently, consumers make decisions using various purchasing channels to acquire purchasing information. This can be particularly important in the field of customer relationship management, which is the process of planning, supporting, and evaluating marketing activities based on customer characteristics by analyzing and integrating company data related to customers as a solution that generates revenue from selected customers and enables customer management. Therefore, demographics, which are basic customer information, may be prioritized in order to analyze tendencies and patterns by securing accurate customer data for customer analysis.

In addition, among the incentives for consumers' purchasing behavior, consumers' stress relief incentives, limited purchases, and social commerce purchasing behavior incentives are higher than those of e-commerce other than social commerce, and there are significant differences in purchasing behavior depending on the consumer's residence, average monthly household income,

purchase frequency, and purchase amount (Yoon et al., 2015). By analyzing the characteristics and trends of the purchasing channel selected according to the consumer's demographics (average annual income, occupation, age, and educational level), this paper can selectively provide the information consumers need and help them conduct detailed marketing and purchasing activities in connection with it.

The main purpose of this paper is to investigate the consumption behavior of consumers more closely and efficient purchasing channels of domestic e-commerce buyers by specifically grasping the relationship between channels and demographics that are used first to acquire purchasing information during e-commerce. Literature review will be shown in section 2, and both data collection and research findings will be discussed in section 3 and 4, respectively, and conclusion remarks and imitations of this work will be stated in section 5.

2. Literature Review

With the development of information and communication technology, changes in family members, the increase in single-person households, and changes in women's lifestyles, Park et al. (2020) compare the status and perception of food purchases in e-commerce among adult women according to their household type. As a result of this study, the most important part of purchasing e-commerce food is the highest percentage of quality, and in the following response, there is a significant difference between single and married households with quick and accurate delivery, clear indication of product information for child households, and recommendation from other buyers for parent households. In addition, adult women's information path to shopping malls has the highest search rate, and the shopping mall they mainly used has the highest rate of using the food category in general shopping malls. When purchasing e-commerce food, the most important part is price and quality, followed by prompt and accurate delivery for single-person and married households. In the case of child households, there are significant differences in the product information clearly indicated, and in the case of parent households, the recommendation of other buyers shows significant differences. E-commerce food purchases are mainly used by single-person and married households, mainly for processing convenience foods, while satisfaction is high in parent households. The following are recent studies related to purchasing information that are important in e-commerce.

Jeong (2023) proves that demographic variables are related to the purchase media of home shopping. To express it in more detail, 'phone calls' are associated with to the average monthly income of income of less than 500,000 won, the age of 60 or older, and the occupation is closely

connected to agriculture, forestry & fishing, and other & unemployed. 'Cell phones' are linked with 2 million - 5 million won, teenagers, 20s, 40s, professionals, office workers, managers, and soldiers, respectively. 'TV directly' are, in main, associated with low-income people, 50s, technical service, device & machine control assembly, fulltime housewives, and simple labor jobs.

While Jeong (2023) shows that the main demographics (average monthly income, occupation and age) influence the purchasing patterns of Internet home shopping, in this paper, there is a difference in examining whether the main consumer demographics are related to the purchase channel and purchase pattern for acquiring purchase information, and furthermore, specific purchase channels and purchase patterns.

Mun (2017) examines traits of both users and non-user of e-commerce and analyze the influence of the factors on usage of e-commerce regarding purchasing tendency, information channels and so on for the purpose of mining usage of e-commerce. According to the Korea Media Panel Study (KMPS) in 2016, results show that there are significant differences of purchasing tendency, information channels and digital divide between groups, and these variables show different influences on the use of open markets and social commerce. This study shows that information channels, purchasing propensity, and digital gap variables are useful variables for understanding e-commerce users, non-users, and e-commerce users, and it is expected to provide useful implications for future studies on the acceptance and use patterns of e-commerce.

Shang (2022) analyzes the impact of recently diversifying e-commerce platform characteristics on users' purchasing behavior and measured how the characteristics of an e-commerce platform affect users' purchasing behavior, focusing on the influence relationship between ease of use, perceived utility, and intention to use. The results show that platform price competitiveness has a significant effect on utility, while scarcity has no significant effect on utility. And, both awareness and ease of use are found to have a significant effect on utility. Taken together, these results suggest that there is a great need for e-commerce platforms to focus on price competitiveness and awareness that the platform must inherently possess, rather than on user characteristics. In addition, considering that the ease of use of a platform improves the perceived utility and thus increases the intention to use the platform, this suggests that ways to improve consumers' ease of use in addition to the price competitiveness and awareness of the platform should be explored together. The purchase intention and purchase behavior of consumers are not necessarily proportional to the presence or absence of economic power, and the purchase behavior of modern holders is more influenced by the psychology of consumers affected by various

environments than economic power. In light of this, it will also be meaningful to consider consumers' average annual income, occupation, educational level, and age as major influencing factors along with essential characteristics of the e-commerce platform (price competitiveness and awareness).

Jeong (2015) classifies and subdivides industries and administrative districts with similar attributes into similar clusters for five quantitative evaluation attributes related to e-commerce purchase motivation targeting 13 domestic industries and 16 administrative districts. As a result of classifying industries and administrative districts with strong similarities based on purchase motive evaluation attributes, it is found that typification into 4 and 2 types, respectively, is possible. Furthermore, as a result of positioning the industries and administrative districts belonging to each cluster using multidimensional scaling, wholesale/retail, others, and manufacturing, and Seoul and Gyeonggi are found to be in a superior position, in terms of attributes of simplification of the purchasing process, reduction of purchasing costs, and direct contact with suppliers. On the other hand, in terms of work speed improvement and other attributes, group repair and personal service industries in occupation, Chungcheong and Gyeongnam in administrative district have superior scores, respectively, while wholesale/retail, lodging/restaurant, and Daegu and Gyeonggi have inferior scores.

3. Data Collection and Statistical Techniques

The data considered for this work are obtained from the Korean Media Panel Survey (KMPS) in 2021 provided by Korea Information Society Development Institute (KISDI), and the KMPS begins with the construction of panels in the metropolitan area and five major metropolitan cities in 2010, and expands the number of panel households and household members nationwide in 2011, and conducts the 12th year survey of national panels in 2021.

Table 1: Basic statistics of the data

AMI (KRW)	no income	0-0.5 M	0.5M-1M	1M-2M	2M-3M	3M-4M	4M-5M	5M+
Frequency	2,595	522	574	1,429	2,341	1,387	386	300

Academic level	elementary grad. or less	middle grad.	high grad.	college grad.	graduate school or higher
Frequency	800	967	3,270	4,342	154

Age	10-19	20-29	30-39	40-49	50-59	60-69	70+
Frequency	568	1,411	1,441	1,694	1,788	1,454	1,177

Job	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Freq.	234	880	1,480	792	943	299	358	489	597	11	1031	1618	8	794

* Note that the numerical values above in Table 1 show the following: 1: Administrator 2: Experts & related persons 3: Office worker 4: Service worker 5: Sales 6: Agriculture, forestry & fishery 7: Technical service 8: Device & machine control assembly 9: Simple labor 10: Professional soldiers 11: Students 13: Soldiers 14: Others & unemployed

The KMPS aims to continuously build panel data that tracks changes in the media environment and usage behavior of the same household and individual. It tracks the impact of changes in the media environment on households and individuals' media usage behaviors and provides information for analyzing differences in media usage behaviors by class and region. It surveys 17 cities and provinces nationwide, and 4,537 panel households (all household members aged 6 or older) are surveyed, and a household visit interview is conducted.

To help understand the results of the analysis, the frequency according to the four demographics given in Table 1 is shown based on a total of 9,532.9 samples as given above (see Table 1).

Supposing that the statistical significance of association among the considered factors exists, the association can be explored visually taking advantage of correspondence analysis (Hoffman & Franke, 1986; Clausen, 1988; Benzercri, 1992; Greenacre, 2007; Hair et al., 2007; Brigitte, 2009; Steven, 2009; Doey & Kurta, 2011; Yang, 2013).

4. Research Results and Discussion

4.1. Association between the Priority Channel for Acquisition of Purchase Information and Average Monthly Income

'Searching for portal sites (Naver, Danawa, Daum shopping method, etc.)' and 'acquiring information from people around you, such as family and friends' account for the majority of all monthly average income (more than 70%). In particular, two sections with a monthly average income of less than 1 million won and the other five sections with a monthly average income of more than 1 million won

account for an overwhelming proportion in 'acquiring information from people around you, so much as family and friends' and 'searching for portal sites', respectively. Additionally, 'no income' among the attributes of average monthly income follows the same pattern as 1 million won or more.

'Visit a specific online store', 'refer to specific SNS, blogs, etc.', 'refer to specific SNS, blogs, etc.' and 'others including watching channels such as TV home shopping and live commerce' account for relatively small proportions of all monthly average income. In other words, relatively low-income people (less than 1 million won) prefer 'acquiring information from people around you', and the rest of the income group prefers 'searching for portal site'.

The following are the attributes of average monthly income, which account for a large proportion of each attribute of the channel used first to acquire purchase information in e-commerce. When using portal site search (Naver, Danawa, Daum shopping method, etc.) or online open market search (Coupang, 11th Street, Auction, etc.) among the channels used first to acquire purchase information, it is preferred evenly in the other average monthly income categories except for 500,000-2 million won. In addition, 'visit a specific online store' are relatively preferred in 'more than 5 million won' (28.6%), and 'refer to specific SNS, blogs, etc.' are relatively preferred in 'no income' (27.3%) and '2 million-3 million won' (27.3%).

In addition, 'visit offline such as department stores or road shops' are evenly used as media for all monthly average income groups, and 'acquiring information from people around you, such as family and friends' accounts for a significant portion of 'less than 500,000 won' (29.3%) and '500,000-1 million won' (21.3%), while 'search YouTube (video platform), etc.' accounts for a significant portion of 'no income' (23.8%).

The following accounts for a large proportion of the 64 combinations of attributes for each priority channel for acquisition and average monthly income compared to other combinations: (acquiring information from people around you, less than 500,000 won, 8.7%), (searching for portal sites, 4 million-5 million won, 8.0%), (searching for portal sites, 3 million-4 million won, 7.4%), (searching for portal sites, over 5 million won, 6.9%), (searching for portal sites, 2 million-3 million won, 6.6%), (acquiring information from people around you, 500,000-1 million won, 6.4%), (searching for portal sites, no income, 5.2%), etc. This demonstrates that groups with an average monthly income of '1 million won or more' using 'portal site search' account for an overwhelming proportion (34.1%). Next, a group with an average monthly income of less than 1 million won based on information acquisition through neighbors can be found to account for a large proportion of more than 15%.

Regardless of the average monthly income, the proportion

of channels used is in the order of 'searching for portal sites' (42.9%), 'acquiring information from people around you' (29.8%), 'searching for online open markets' (11.7%), and 'visit offline' (9.9%), etc. 'Visit a specific online store', 'refer to specific SNS, blogs, etc.', 'search YouTube (video platform), etc.' and 'others' are very rare compared to other attributes in all income classes.
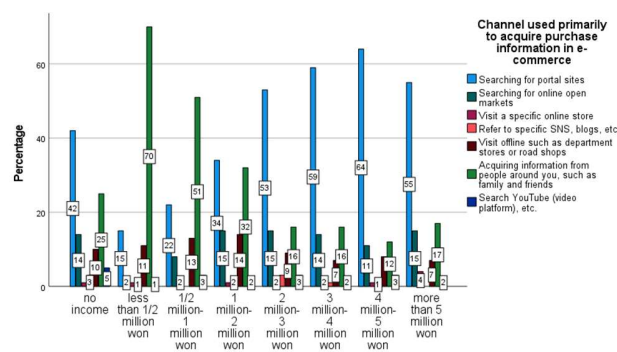

Figure 1: Average Monthly Income by Channel

There is a sign that a significant relationship between priority channel for acquisition and average monthly income and (p-value<.001) exists exploiting Pearson's test statistic (142.914). This result shows that the null hypothesis that 'there is no relationship between priority channel for acquisition and monthly average income' cannot be accepted at the level of 5%.
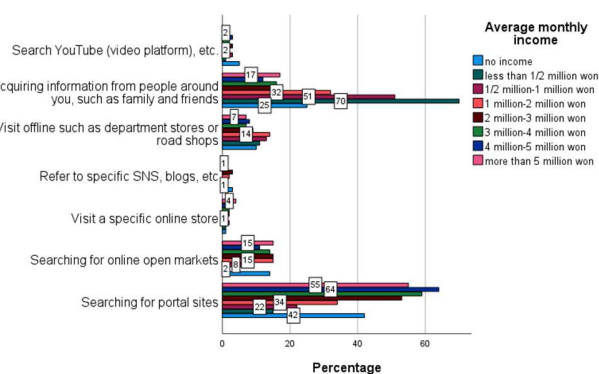

Figure 2: Channel by Average Monthly Income

This implies that the association between the two variables can be specifically analyzed by expressing the distance between the properties of priority channels for acquisition and the properties of monthly average income on a two-dimensional plane using correspondence analysis.

It is demonstrated that 'no income' and 'less than 1 million won' among monthly average income' are closely associated with

'search YouTube (video platform), etc.' and 'acquiring information from people around you' among priority channel for acquisition, respectively, as depicted in Figure 3. In addition, the attributes with great relevance are expressed in pairs as follows: (1 million-2 million won, visit offline), (2 million-3 million won, searching for online open markets) and (3 million-5 million won, searching for portal sites). Finally, 'over 5 million won' is marginally associated with both 'searching for portal sites' and 'visit a specific online store' among priority channel for acquisition.
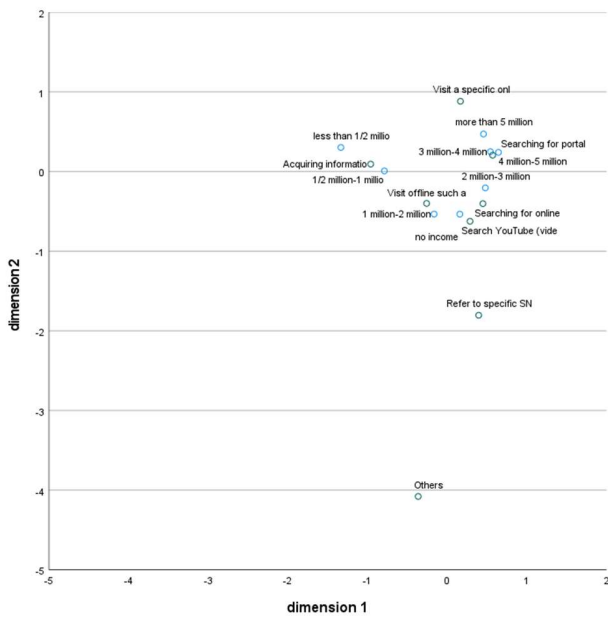
Figure 3: Row and Column Points with Symmetric Normalization

4.2. Association between the Priority Channel for Acquisition of Purchase Information and Occupation

Attributes 'searching for portal sites' and 'acquiring information from people around you' among priority channel for acquisition account for the dominant proportion of almost all occupations. Specifically, 'simple labor', 'housewives', and 'others or unemployed' account for the largest portion of 'acquiring information from people around you', and the remaining 10 occupations do 'searching for portal sites. In particular, the frequency order of channels used first by 'administrators', 'experts & related persons', and 'office workers' among occupation to acquire purchase information is 'searching for portal sites', 'searching for online open markets', 'acquiring information from people around you', and 'visit offline'. At this time, 'searching for portal sites' account for more than 60% of the
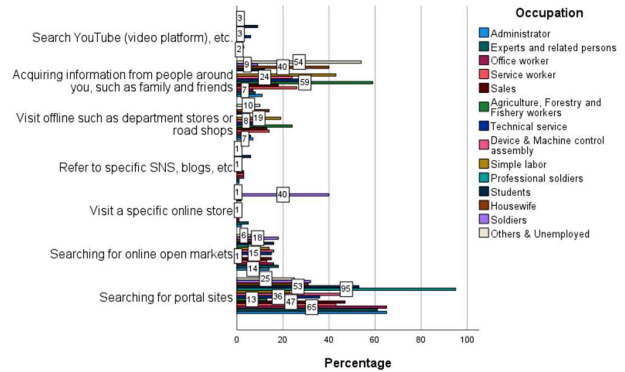
previous three occupations.

Figure 4: Channel by Occupation

Among occupations, 'professional soldiers' (95.0%), 'office worker' (65.0%), 'administrator' (64.45%), 'experts & related persons' (60.4%), 'students' (53.0%), 'device & machine control assembly' (47.5%), 'service workers' (42.2) %) predominantly select 'searching for portal sites' among the channels they preferentially use to acquire purchase information. 'Agriculture, forestry & fishery workers' (59.6%), 'others or unemployed' (54.0%), 'simple labor' (43.0%), and 'housewives' (39.6%) choose 'acquiring information from people around you' the most to acquire purchase information. In other words, it can be seen that occupations with easy access to SNS prefer 'searching for portal sites', and occupations that do not prefer 'acquiring information from people around you'.

In particular, 'professional soldiers' absolutely make use of 'searching for portal sites' (95.0%), while 'soldiers' do both 'visit a specific online store' (40.4%) and 'searching for portal sites' (32.3%) with a large and similar weight (72.7% in total). It is noteworthy that 'others' among priority channel for acquisition has no frequency other than 'housewives' (1.0%) across all occupations. Among the 112 combinations of priority channel for acquisition and monthly average income, 'professional soldiers' using 'searching for portal sites' account for the largest frequency (6.8%), followed by 'administrator' (4.6%), 'experts & related persons' (4.3%), 'agriculture, forestry & fishery workers' (4.2%), with selecting 'searching for portal sites', etc.

Regardless of occupation, 'searching for portal sites' accounts for the most frequency (45.3%), followed by 'acquiring information from people around you' (24.4%), 'searching for online open markets' (12.7%), 'visit offline' (9.3%), and 'visit a specific online store' (4.0%). In the order of occupation that selects 'searching for portal sites', 'professional soldiers' (14.9%) account for the largest portion, followed by 'administrators' (10.2%), 'office

workers' (10.2%), 'experts & related people' (9.6%), 'students' (8.3%), 'sales' (7.4%), and 'service workers' (7.0%), etc.
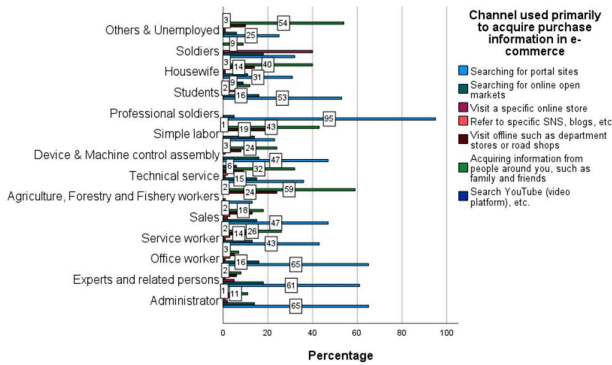

Figure 5: Occupation by Channel

Similarly, 'acquiring information from people around you' is in order of 'agriculture, forestry & fishery workers' (17.2%), 'others or unemployed' (15.7%), 'simple labor' (12.5%), 'technical service' (9.3%) and 'device & machine control assembly' (7.0%), etc., while 'searching for online open markets' is in order of 'experts & related persons'/'soldiers(10.1%)', 'office worker'/'device & machine control assembly'/'students' (9.0%), 'sales'/'technical service' (8.4%), 'administrator'/'simple labor'(7.9%), and 'service worker' (7.3%), etc. Agricultural, forestry & fishery workers' (18.3%) is the most frequently chosen occupation for 'visit offline visit offline', followed by simple labors (14.5%), service workers (10.7%), sales (9.9%), and technical services (6.9%).

The large Pearson's computed test statistic (211.228) demonstrates that the null hypothesis of 'no relationship between priority channel for acquisition and occupation' cannot be accepted at level 5% (p value <. 001). As shown in Figure 6, several specific associations between priority channel for acquisition and occupation can be analyzed as follows. It can be detected that 'soldiers' 'agriculture, forestry & fishery workers' and 'others or unemployed' among occupations are closely connected with 'visit a specific online store ', 'others' and 'acquiring information from people around you' among priority channel for acquisition, respectively, as denoted in Figure 4. In particular, 'office worker', 'administrator' and 'device & machine control assembly' are closely linked to 'searching for portal sites', while 'service worker' and 'housewives' are closely relevant to 'search YouTube (video platform), etc.' and 'visit offline, such as department stores or road shops', respectively. In addition, 'simple labor' is jointly connected with both 'visit offline', and 'acquiring information from people around you'.
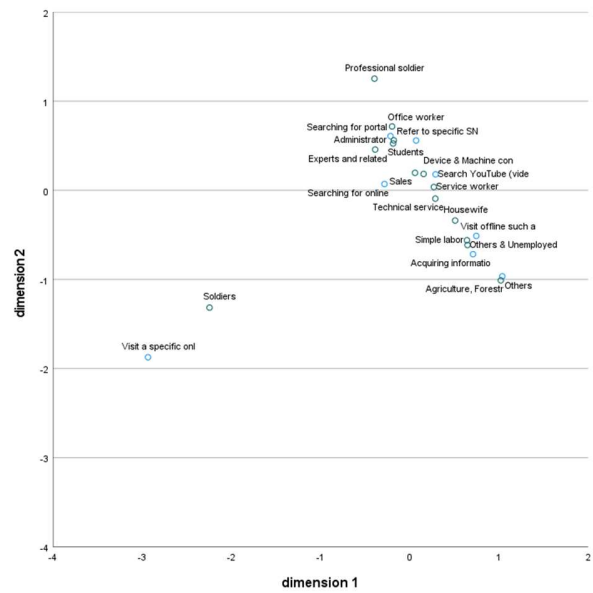

Figure 6: Row and Column Points with Symmetric Normalization

4.3. Association between the Priority Channel for Acquisition of Purchase Information and Academic Level

Among the academic background levels, 'middle school graduate' account for the largest portion 'acquiring information from people around you' (53.5%), and 'high school graduate' do 'searching for portal sites' (42.0%). In particular, elementary school graduate and graduate school students or higher account for much more 'searching for portal sites' and 'acquiring information from people around you', respectively, compared to the attributes of other priority channel for acquisition of purchase information (80.0% and 71.7%).

The pattern of priority channel for acquisition for both college graduate and graduate school enrollment or higher is the same (i.e., the order of 'searching for portal sites', 'searching for online open markets', and 'acquiring information from people around you'), and 'searching for portal site' occupies a dominant frequency compared to other attributes for these academic background levels. While 'searching for portal sites' is preferred as the educational background is higher, 'searching for online open markets 'is preferred after 'searching for portal sites' for college graduate or higher. Both 'visit a specific online store' and 'refer to specific SNS, blogs, etc.' account for the largest proportion of 'college graduate' (40.0% and 42.9% respectively).

While 'visit offline such as department stores or road shops' is preferred by 'high school graduate or below',

'acquiring information from people around you' is preferred by 'middle school graduate or below', especially 'under elementary school' (45.5%). 'Search YouTube (video platform), etc.' is most preferred by middle school graduate (42.9%).
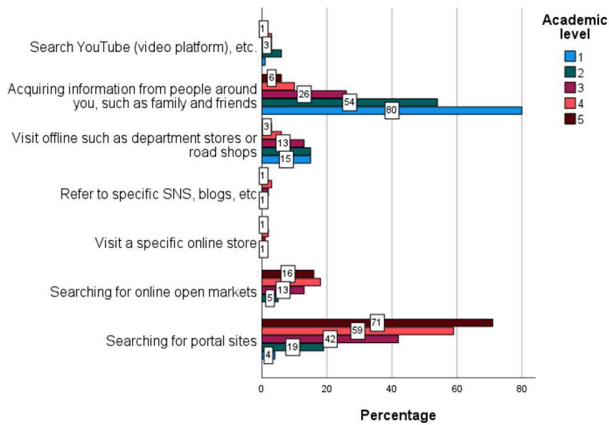

Figure 7: Channel by Academic level

* Note that the numerical values above in Figure 7 show the following: 1: elementary school graduate or less 2: middle school graduate 3: high school graduate 4: college graduate 5: graduate school or higher
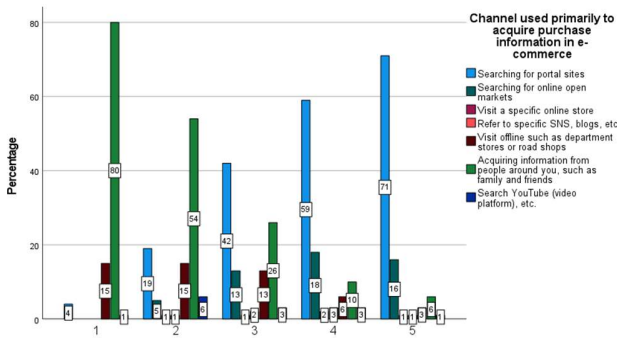

Figure 8: Academic level by Channel

Among the 40 attributes of priority channel for acquisition of purchase information and education level, 'elementary school graduate' choosing 'acquiring information from people around you' accounted for the largest frequency (16.0%), followed by 'graduate school or higher' with 'searching for portal sites' (14.2%), 'college graduate' (11.8%), and 'middle school graduate' with 'acquiring information from people around you' (10.8%). Regardless of the educational level, 'searching for portal sites' (38.9%) accounts for the largest proportion of channels used, followed by with 'acquiring information

from people around you' (35.1%), 'searching for online open markets' and 'visit offline (10.4%)', etc.

Since the calculated test statistic is very large (53.571), the null hypothesis that 'there is no association between priority channel for acquisition and academic level cannot be accepted' at level 5% (p-value<.005).

When examining the correspondence analysis results shown in Figure 9 to explore the specific association between the attributes of the two categorical variables, it can be found that attributes 'elementary school graduation', 'middle school graduation', 'college graduation' and 'graduate school or higher' are highly related to 'acquiring information from people around you', 'visit offline', 'searching for online open markets', and 'searching for portal sites', respectively.
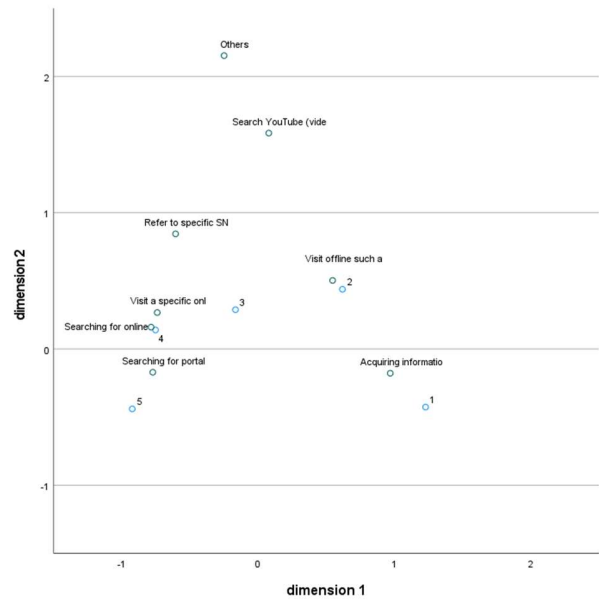

Figure 9: Row and Column Points with Symmetric Normalization

4.4. Association between the Priority Channel for Acquisition of Purchase Information and Age

In order to acquire purchase information during transactions, teenagers to 50s tend to 'searching for portal sites', and '60s and older' tend to 'acquiring information from people around you'. In particular, of all the combinations of attributes of each priority channel for acquisition and age, 'over 70s' with 'acquiring information from people around you' account for the largest frequency (11.4%).

On the other hand, among the attributes of the priority channel in all age groups, both 'visit a specific online store'

and 'others' account for a very low proportion. 20s, 30s, and 40s account for more than 80% of the total frequency, including 'searching for portal sites' and 'searching for online open market'. Regardless of age, the order of attributes with the high frequency of the priority channel is 'searching for portal sites' (42.9%), 'acquiring information from people around you' (27.1%), 'searching for online open markets' (12.9%) and 'visit offline' (9.4%), etc.
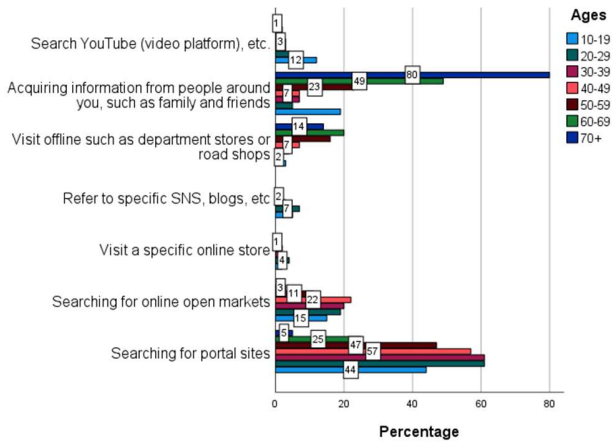

Figure 10: Channel by Age

As the age increases from teens to 40s, the frequency of 'searching for online open markets' tends to increase, but decreases rapidly from the 50s. 'Searching for portal sites' accounts for a large portion of all age groups except '70s and older', while 'visit offline' accounts for some portion from '50s and older'. From the 50s, the tendency to rapidly select 'acquiring information from people around you' as the priority channel is noticeable (19.0% in 10s, 23.0% in 50s, 49.5% in 60s, and 80.0% in 70s and older). In particular, teenagers have the largest proportion of choosing attribute 7 as the priority channel (12.0%).
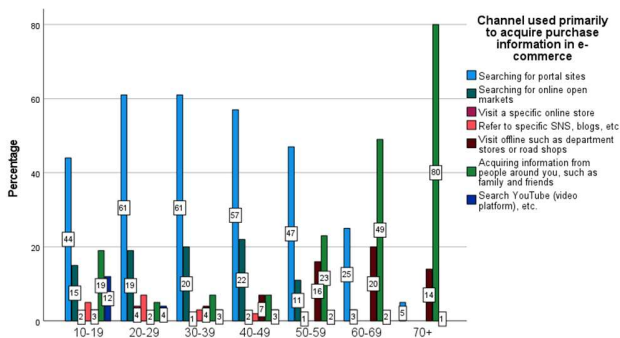

Figure 11: Age by Channel

Among the 56 attributes of priority channel for

acquisition of purchase information and age, '70s and older' choosing 'acquiring information from people around you' accounted for the largest frequency (11.4%), followed by '20s' with 'searching for portal sites' (8.7%), '30s' with 'searching for portal sites' (8.7%), '60s' with 'acquiring information from people around you' (7.0%), '50s' with 'searching for portal sites' (6.7%), and '10s' with 'searching for portal sites' (6.3%), etc. This suggests that groups in '50s or younger' with 'searching for portal sites' as the priority channel account for more than half of all combinations (56.9%). Next, it can be found that groups in '60s or older' who select 'category 6 as the priority channel account for more than 20%.
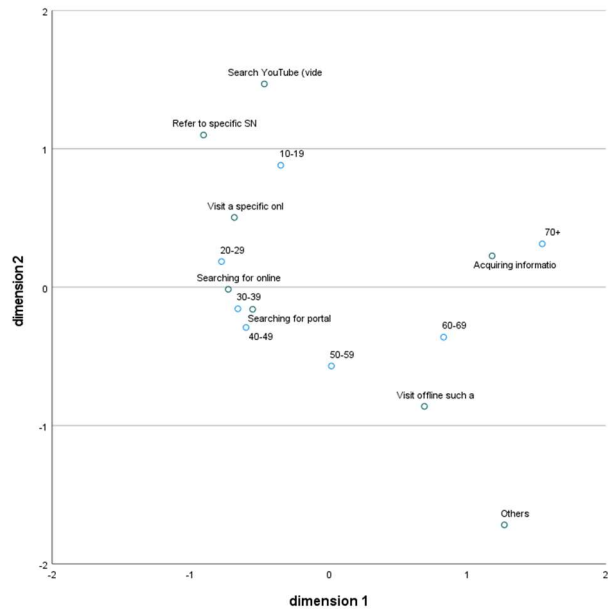

Figure 12: Row and Column Points with Symmetric Normalization

It can be seen that '20', '40s' and '70s and older' have to do with much 'searching for online open markets', 'searching for portal sites 'and 'acquiring information from people around you', respectively', as shown in Figure 12. In addition, '30s' can be in a marginal connection with 'searching for portal sites' and 'searching for online open markets', '50' can be 'searching for portal sites' and 'visit offline', and '60s' can be 'visit offline' and 'acquiring information from people around you'. That is, as the age increases, priority channel for acquisition may find a pattern that starts at 'searching for online open markets', passing through 'searching for portal sites' and 'visit offline', and finally changes to 'acquiring information from people around you'.

We can find that a significant association between priority channel for acquisition and age (p-value <.001) exists considering the large Pearson's test statistic (348.300) and thus correspondence analysis is needed for more detailed analysis.

5. Concluding Remarks and Limitations

In this paper, the association between demographics and channels used first to acquire purchasing information during e-commerce is examined by statistical tools such as chi-squared test and correspondence analysis. The factors under consideration are average monthly income, academic level, occupation and age, while the attributes of priority channel for acquisition of purchase information are searching for portal sites, searching for online open markets, visit a specific online store, refer to specific SNS, blogs, etc., visit offline such as department stores or road shops, acquiring information from people around you, such as family and friends, search YouTube (video platform), etc., and others.

While most of the previous works are focused on purchase information for e-commerce transactions in domestic market, this work empirically examines the association between the underlying factors of importance in priority channel for acquisition, and investigate the consumption behavior of consumers more closely as e-commerce transactions increase due to the expanded non-face-to-face life after COVID-19 and the competition in online markets becomes fiercer.

As a result, we can obtain the findings that all demographics under consideration are associated with priority channel for acquisition of purchase information. The following is a comprehensive summary of what is related to demographics for each attribute of the channel that is used first to acquire purchase information. First of all, 'searching for portal site' is closely associated with the average monthly income of 'more than 5 million won', 'administrator', 'office worker', 'graduate school or higher', and '40-59', while 'searching for online open market' is linked with college graduate and 20-39'. It can be interpreted that consumers with high average monthly income, high education level, or professional jobs have a high rate of information acquisition through portal sites because they have high information search capabilities, so they tend to search, compare, and analyze information on their own.

On the other hand, 'visit offline such as department store or road shops' is relevant to 'housewives', 'simple labor', 'middle school graduate', '50-69', while 'acquiring information from people around you, such as family and friends' is closely connected to 'less than 1 million won', 'others or unemployed', 'simple labor', 'elementary graduate or less' and '60 or more'. Unlike the case of 'searching for

portal site', consumers with low monthly average income, inferior educational level, unemployed, or older age have a high rate of information acquisition through neighbors such as family and friends can be judged to be inferior to other demographics in their ability to search and compare information on their own. Finally, 'search YouTube (video platform), etc.' can find close relevance to 'no income' and 'service worker', while 'visit a specific online shopping mall' can do to 'more than 5 million won' and 'soldier'.

Most of the previous research on purchasing information in e-commerce focuses on non-demographic factors such as e-commerce platform characteristics, price satisfaction of social commerce, and e-commerce live broadcasting as factors that affect consumers' purchasing behavior. The substantial contribution of this work is that by analyzing the association between demographics and priority channel for acquisition of purchase information in e-commerce in South Korea, we can discern the segmentation standard factor for e- commerce market and advance the subdivided market. Additionally, by assessing the attractiveness of all market segmentation, it plays a basic and crucial role in choosing a target market, and competitive product positions can be classified for positioning in every target market.

Mobile is an indispensable medium that selects channels that are used first to acquire purchase information during e-commerce. By e-commerce and online transaction items, mobile simple remittance and payment service users have the highest purchase experience (93.9%) in domestic online shopping malls, and non-users have high purchase experience not only in domestic online shopping malls (63.6%) but also through TV home shopping (57.4%), according to KMPS in 2022. In addition, Users of mobile simple remittance and payment services responded that they use the portal site search channel first (54.3%) to acquire purchase information, and non-users use the information acquisition channel (48.8%) through neighbors first. Therefore, since the characteristics of users/non-users of mobile simple remittance and payment services are related to age variables, it suggests that a service activation strategy taking this into account is necessary.

Since the demographics considered in this paper are limited to monthly income, occupation, academic levels and age, adding more diverse and realistic factors such as gender, administrative district, housing type, and employment status will help in-depth understanding of channels that are used first to acquire purchase information in the future. In addition, this paper also has a limitation in that it could not cover the final purchase channel management by studying the relationship with major demographics and channels that are used first to acquire purchase information during e-commerce. In other words, it is not possible to connect the purchase information collection channel to the purchase

channel, and this is expected to be expanded into a comprehensive model for future research.

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