

A Study of Improvement in Trust and Purchase Intention Through Perceived Usefulness in Product Information Page Layouts

– focused on HMR products in online shopping environment for elderly consumers

신뢰 및 구매의도의 향상을 위한 제품 정보 페이지 레이아웃에서의 지각된 유용성의 활용에 관한 연구

– 고령층 소비자를 위한 온라인 쇼핑 HMR 제품 중심으로

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ABSTRACT

Keywords

HMR
elderly consumers
online trust
online product
information layout
online purchase
intention

As pandemic continues, diverse kinds of HMR(Home Meal Replacement) products are being introduced to online markets, and generation 5 of HMR targets the elderly consumers, with introduction of care food kinds. The present study investigated product information page layouts that can support improvement of trust and purchase intention for online sold HMR products for elderly consumers, in both familiar and unfamiliar menu kinds. The purpose and the aim of the study is to improve elderly consumers' trust and purchase intention through utilization of perceived usefulness in product information page layouts, and the study analyzed the effect of trust due to perceived usefulness of product information layout types on product information pages that lead to purchase intention, and suggest product information layout types for online HMR products targeted for elderly consumers. Study method include, first, literature review on how perceived usefulness and its influence on trust and purchase intention have been reviewed, second, a case study focused on product information pages of online HMR shopping has been followed. As the result of the case study, three types of product information layout types (image focused type, feature focused type, and image and feature mixed type) have been suggested for online HMR shopping environment. Third, a survey has been conducted to empirically investigate product information page for both unfamiliar and familiar menu product kinds. Survey results revealed that perceived usefulness had significant positive effect on trust and purchase intention in online shopping of elderly consumers. Furthermore, the image and feature mixed layout type for information page was most desirable, while the result is most pronounced among unfamiliar HMR menu types. Therefore, the study proved that with considerable improvement in information page layout types, an increase in trust or purchase intention among elderly consumers can be expected. The findings of the study will work as a supportive resource during the planning stage of constructing online stores selling HMR products targeting the elderly consumers.

요약

중심어

HMR
고령층소비자
온라인신뢰
온라인제품정보레이아웃
온라인구매의도

팬데믹(pandemic) 상황이 지속되면서, 온라인 쇼핑 환경에서는 더욱 다양한 HMR(Home meal replacement) 제품들과 더불어 고령층 소비자를 겨냥한 5세대 HMR 분야인 연화식 장르의 제품들이 등장하고 있다. 본 연구는 고령층 소비자를 대상으로 온라인 마켓에서 판매하는 익숙한, 그리고 익숙하지 않은 HMR제품들의 신뢰 및 구매의도의 향상을 위한 제품 정보 레이아웃에 대한 연구이다. 연구 목적 및 연구목표는 제품 정보 페이지 레이아웃에서의 지각된 유용성을 활용한 고령층 소비자의 신뢰 및 구매의도의 향상이며, 이를 위해 고령층 소비자를 겨냥한 HMR 제품의 제품 정보 페이지가 담고 있는 제품 정보 레이아웃 타입의 지각된 유용성이 신뢰 및 구매의도로 이어지는 영향을 분석한다. 연구방법으로 첫째, 지각된 유용성과 이에 따른 신뢰 및 구매의도에 대한 문헌연구가 이루어졌으며 둘째, 온라인 HMR 제품 쇼핑에서의 제품 정보 페이지 중심의 사례분석이 이어졌다. 사례분석 결과, 온라인 환경에서 판매되는 HMR 제품들을 위한 세 가지 제품 정보 레이아웃 타입(이미지 중심 타입, 특징 중심 타입, 이미지와 특징 혼합형 타입)을 제시 하였으며, 셋째, 제시된 레이아웃 타입들을 적용한 실증조사가 설문조사를 통해 이루어졌다. 설문조사 결과, 지각된 유용성은 고령층 소비자의 신뢰 및 구매의도에 긍정적인 영향을 미치는 것이 밝혀졌다. 또한, 이미지와 특징 혼합형 제품 정보 레이아웃 타입이 익숙한 그리고 익숙하지 않은 HMR제품 모두의 제품 정보 페이지에서 가장 효과적인 것으로 밝혀졌으며, 이는 익숙하지 않은 HMR제품에서 더욱 확고하다. 따라서, 제품 정보 페이지의 제품 정보 레이아웃의 발전은 소비자의 제품 품질 신뢰 및 구매의도의 향상을 가져올 수 있다. 본 연구 결과는 고령층 소비자를 겨냥한 HMR제품들을 판매하는 온라인 스토어 구축의 기획 단계에서 도움이 되는 자료로 활용 될 수 있다.

이 논문은 윤정우의
박사학위논문을 재정리한
것입니다.

1. Background and purpose of the study

1.1. Background

Not only that we have no other alternative options for grocery shopping in this pandemic situation, online stores are continuously gaining popularity with many merits such as its no time and place boundary, much variety of product genres, that are also lower in price. However, competition of online markets are becoming more fierce as offline markets join themselves into online markets. Online markets have its crucial weakness, that consumers cannot touch and see the products in real, and because of this, uncertainty is caused from lack of product quality trust, unless the products are made by famous brands from major companies. Due to this difficulty, when consumers meet products in online stores, visual images and product information provided in the external part of packages act as an important tool to raise trust and improve purchase intention.

Furthermore, as consumption power of elderly become stronger and as South Korea meets 5th HMR generation, understanding consumption tendencies of elderly consumers is very important in terms of corporate's marketing aspect. Elderly's income level raised along with the raise of economy of South Korea, and with higher and stabilized income level provided by welfare system, severance pay and diverse public pensions, consumption of elderly is becoming crucial element in growth of nation's economy and market competition of corporate.

However, elderly have low adaptability with modern IT technologies and usage of SNS is significantly low compared to young shoppers, it is not easy to navigate information provided in SNS, furthermore, their utilization level of online markets are yet quite low. Therefore, elderly have high tendency to be reliant on usefulness of provided product information to proceed purchase decisions in online markets.

1.2. Purpose and aim of the study

This study is aimed at supporting elderly consumers with their online food shopping, the study investigated structural relationship between purchase intention and improvement of trust in product quality through perceived usefulness in product information page layouts of online HMR products. The study investigates product information page layout types that can support improvement of product quality trust among elderly consumers, that ultimately lead to purchase intention, utilizing perceived usefulness as the study variable.

1.3. Method of the study

Perceived usefulness and its effect on trust in product quality as well as purchase intention have been set for hypothesis. As for verification of the hypothesis, a survey has been conducted using "Online Google Survey". SPSS 25.0 and AMOS 25.0 statistical software packages were used for the analysis. First, frequency analysis was used to identify general characteristics of samples. Second, exploratory factor analysis was used to analyze validity and trust of measuring tool. Then, Cronbach's alpha was calculated to analyze internal consistency of the measuring tool. Suitability of the observed model was measured through confirmatory factor analysis and structural equation modeling (SEM). Third, as basic analysis, descriptive statistics were presented including mean and standard deviation of study variables. Pearson's correlation coefficient was presented to analyze correlation of study variables. Fourth, the mediating effect of trust was analyzed after applying an SEM casualty model to test structural cause and effect of study

variables. Multi-group analysis was conducted to test the moderation effect of familiar and unfamiliar types of HMR, monthly number of HMR product purchases, and yes or no to shopping experiences just by looking at information page layouts without any prior information of the specific HMR product in the past. Lastly, Pearson X^2 test was conducted via crosstabs analysis to investigate differences according to HMR purchase type variables of survey demographics.

2. Literature review

2.1. Growth of HMR and elderly consumers as major buyers

Working couples with or without children and single-person households, as well as senior households have emerged as major buyers of HMR (Yonhap news, 2019). According to a survey by Cj Jeiljedang, purchase of HMR by senior households (all family members older than 55) showed large increase in sales in 2018 compared to 2016, in categories including instant rice, soup, frozen dumplings, and kimchi (Food channel, 2010). Along with the increasing interest in elderly consumers, major South Korean corporates such as CJ Jeiljedang, Shinsegae food, Hyundai Greenfood, and Pulmoowon Foodmers are introducing easier digestion care food type of HMR to target the senior market (Etoday, 2020). <Table 1> presents the care food HMR products recently introduced by the abovementioned corporates.

The Ministry of Agriculture, Food, and Rural Affairs of Korea announced that the market size of senior-friendly food has risen by 54.8% from 5.1 billion won in 2011 to 7.9 billion won in 2015, and the Korea Health Industry Development Institute expects the market size to exceed 17 billion won this year (Greened, 2019). It is estimated that by 2023, the HMR market of South Korea will exceed 10 trillion won (Foodbank, 2019). As the market size is constantly increasing and as the phenomenon is quite recent, there is a need for further research in this area as there are currently few studies on HMR food and seniors.

With elderly consumers as newly emerging major buyers of HMR, diverse HMR products are being produced targeting this segment, and the platform of the sales and purchase is planned with a focus on the online shopping environment. HMR production and strategies should consider how these products are displayed in online stores as well as how the product details are portrayed in online shopping environments.

2.2. Elderly consumers' decision making

For elderly consumers to make good decisions when shopping online, they must be able to comprehend the information and its meaning, and be able to determine meaningful differences between options and measure facts to match whether it meets their value. Furthermore, they must be able to choose and make trade-offs (Drolet et al., 2018). That is, to make a good choice, comprehension of product information is fundamental. How seniors construct their choice options and make choices requires understanding of consumer decision making. The term “satisfice,” was introduced by Herbert Simon. The theory describes the limitations of human cognition as well as environmental complexities in the decision-making process, and that the goal of utility maximization is nearly impossible to achieve in real life (Barros & Gustayo, 2010). According to Herbert Simon, rather than maximize, people often “satisfice” when making decisions, and satisficers are content to settle for a “good enough” option, not necessarily the very best outcome in all respects (Starry, 2013).

<Table 1> Characteristics of Satisficers in Comparison to Maximizers

CJ Jeiljedang Bibigo

Shinsegae Easy Balance

Hyundai Greenfood

Pulmoowon Foodmers


(Table 2) *Characteristics of Satisficers in Comparison to Maximizers*

M a x i m i z e r s	Looks for maximum benefit & highest utility
	Compare decisions with others
	Tendency to regret decision is higher
S a t i s f i c e r s	Settle for good enough options
	Do not bother comparing decision with others
	More satisfied with outcomes

Older adults are known to have more “satisficing” than “maximizing” tendencies. As described in <Table 2>, maximizers tend to look for maximum benefit and highest utility in products, while satisficers tend to examine information about an option only until they find the amount of information sufficient and therefore acceptable (Yoon & Carpenter, 2011). That is, older consumers prefer to obtain only the minimal, necessary amount of information rather than maximal amount information.

Satisficing may be a decision strategy by older adults as a way to decrease the effort amount required during tasks that require cognitive processing (Yoon et al., 2010). These antecedent studies suggest that elderly consumers are not likely to be looking for maximum satisfaction in purchases, but they are more interested in what works for them and at the same time, what bothers them less in terms of utilization of cognitive abilities. In short, elderly consumers wish to gain product information via less complicated methods, and this is because they are not seeking maximum quality of products, and it works for them as long as the product is satisfactory.

Abaluck and Gruber suggest that information should be organized in a simply formatted template with limited information to help elderly shoppers make decisions more easily as elderly consumers make better decisions when provided information is limited (Abaluck & Gruber, 2009). Furthermore, when comparing complex options, older adults have been found to be more feature oriented due to their tendency to reduce options and the cognitive effort involved in a decision is greater than the experiential benefits offered by the features (Yoon & Carpenter, 2011).

To summarize, due to elderly consumers’ tendency to satisfice when making decisions in multiple option settings, providing limited information is easier for them. Moreover, a simply formatted template with key features of product information can be an optimal style of presentation of information. The summary of the literature study can be applicable to product information pages as in most cases, these pages contain the relevant product information. The cognition process while obtaining information can be frustrating for elderly consumers to make purchase decisions.

2.3. Trust in online shopping environment

As online transaction is a trade with an unseen person and the product to purchase cannot be seen or touched in real life, a number of previous studies have emphasized the importance of trust in the online sales environment, and have sought ways to improve such trust.

Trust in the online sales environment has been recognized as “the most significant long-term barrier for realizing the potential of e-commerce to consumers” (Koslowski et al., 2004). Hoffman et al., noted that it is consumers' lack of trust in the online purchase environment that prevents them making a purchase.

In online sales, trust is particularly important as customers as customers are usually not able to personally inspect the quality of goods and services or the venture's professionalism (McKnight et al., 1998).

Internet purchases are viewed as being more risky than offline purchases since the exchange of goods and money are not simultaneous (Lee et al., 2001). The lack of face-to-face interaction between salesperson and customer further inhibits the development of trust in online markets (Chadwich, 2001).

However, trust is typically built up in a gradual manner through ongoing interactions

(Saunders, 1997). Through these ongoing interactions, people acquire beliefs concerning the ability, integrity, and intentions of the trusted party, which, in turn, affect their trust in that party (Griffin, 1967).

Gaining trust is comparably quite easy for major corporates and long-time established brands as brand recognition and experience and acknowledgment established through the years occurs between consumers and widely known brands (Larson, 1998). However, for startups, it is much more difficult to convince consumers of the quality of their products, although the digital economy does allow small entrepreneurial ventures to quickly and inexpensively compete side-by-side with industry titans (Joshi et al., 2000). Even though the entry barriers are low in the digital economy, trust is desperately needed for the small entrepreneurial ventures to generate sales sufficient to sustain and grow the venture (Murphy, 2000).

To summarize, although trust works as one of the most significant elements in online sales, it is difficult to achieve without time and interaction, seeking a way to improve trust in online sales, especially for elderly consumers is even more challenging due to their distrust tendencies toward online products. Seeking ways to improve elderly consumers' trust in the quality of products sold online, which at the same time does not require lengthy interaction or built up past experience, is necessary as not only are HMR products introduced by well-known brands, but novel HMR products are also expanding rapidly.

2.4. Perceived usefulness and its relation to trust

Perceived usefulness pertains to “the degree to which a person believes that using a particular service would enhance his or her job performance” and this follows from the definition of the term useful, “capable of being used advantageously,” in that a system high in perceived usefulness, in turn, is one wherein a user believes in the existence of a positive performance relationship (Davis, 1989). Although this definition was originally used in the field of software, Davis extended it to cover online transactions.

Perceived usefulness has been identified across diverse technology contexts as a cognitive belief salient to technology acceptance (Davis et al., 1989). It has been found to be important in e-service contexts such as e-commerce (Gefen et al., 2003), mobile payment services (Chandra et al., 2010), and online banking (Bhattacharjee, 2001), and it is also relevant to the dynamic study of system usage (Bhattacharjee & Premkumar, 2004).

Koufaris and Hampton-Sosa (2002) hypothesized the variables, perceived usefulness and perceived ease of use of a website, (both constructs of the technology acceptance model developed by Davis (1989) to be predictors of consumers' trust in an online company during the first contact with its website. They found that perceived usefulness affected trust significantly as well as perceived ease of use, and trust significantly affected consumers' intention to purchase from an online shop and return to the online shop.

Lastly, Pavlou posits that trust in the e-commerce retailer affects consumers' perceived risk of the transaction, the perceived ease of use, results confirmed the hypothesized effects of trust in the electronic retailer on perceived risk, perceived usefulness and perceived ease of use as well as on the consumers' intention to transact with the retailer. Given that the aforementioned studies proved the relation of perceived usefulness to trust in online trade environments, perceived usefulness could be considered to be adapted in product information pages as it could function as a mediator for increasing trust in product quality.

2.5. Website usability and trust in online sales environment

As the above mentioned definition of perceived usefulness states, it pertains to the "degree" to which a person believes that using a certain website would enhance his/her job performance. These degrees of belief in performance enhancement are found in many e-commerce related studies including the studies below.

Benbunan-Fich (2001) highlighted the usefulness of websites and assigned design, navigation, and speed as the criteria of evaluation. Turner (2002) provided the seven following guidelines for measuring the usability of a website: page design, content, media use, consistency, accessibility, interactivity, and navigation. As a measurement for assessing the quality of a website, Barnes and Vidgen (2003) used usability, which refers to the degree of ease in acquiring and manipulating website content.

All of the above studies included design or page design as one of the criteria for usability evaluation. The product information page design is one of the major measuring criteria and as stated in the literature review of elderly consumers, design should be oriented toward key product features and it should be simply formatted for elderly consumers. That is, in order for elderly consumers to have improved product quality trust in HMR products sold online, it should be evaluated with the inclusion of website design, which in the case of the elderly, is to focus information on key features and use simplified templates.

3. Case study

3.1. Product information layout types of HMR products in product information pages

Thus far, no tests have been conducted on such areas that provide already existing criteria on layout types or specific layout types currently being utilized in online HMR shopping; therefore, suggestions from literature studies served as a basis to categorize information layout types. As mentioned in the decision-making characteristics section of the literature study, simplification of the presentation method is the key to accommodating elderly cognitive abilities and how categorization of product information and organization of information is an important part of the study (Yoon & Carpenter, 2011). Accordingly, the organization method in the product information page is an important part to be analyzed. In addition, following the literature on image utilization for improvement of trust and the utilization of photographic images in terms of its mass and consistency were analyzed (Dilshodjon et al., 2013).

3.2. Analysis method and selection standards of examples

The HMR product information pages of domestic online food and grocery shopping malls were gathered from May 4, 2020 to May 11, 2020. The seven malls were selected on a similar basis as that described in the product display page analysis above. All of the HMR food products in pouch type packaging from the selected malls were analyzed. Product information pages and layout types were analyzed in terms of features and image utilization according to the results of the literature review. The literature review on elderly decision-making that leads to purchase intention emphasizes how information should be focused on a product's features and that straightforward information display would be particularly helpful for the elderly. Accordingly, how information is categorized and how these categories of information are organized in features was analyzed. Image layout was analyzed as literature studies on the development of trust highlight the

importance of image utilization; correspondingly, image mass, shape, size and regularity were analyzed.

3.3. Result of the case study

Product information pages of the selected online markets have been analyzed in terms of features and image utilization, and the result of the analysis are as follows.

In the features category, Hello Nature contained 5~7 categories of key feature information, whereas Oasis market and GS Fresh having no feature information at all present. SSG Emart showed 0 to 1 categories, Market Kurly with only 1, Coupang Fresh with 2 feature information categories.

Focused images for all online markets were food and package images, with Market Kurly focusing on food, package and about brand, and GS Fresh focusing on food images only. Oasis market, Market Kurly, GS Fresh contained minimal mass of images in the page, whereas Hello Nature and SSG Emart containing maximal mass of image. In terms of the pattern of image distribution, product information pages of SSG Emart and GS Fresh were composed irregularly, while the rest of the online markets were composed in regular image distribution pattern. <Table 3> below summarizes the result of the analysis.

As the result of the case study, product information layout types have been categorized into 1) image focused layout type 2) feature focused layout type 3) mixed layout type (both image and feature focused)

Image focused layout type was selected as the literature studies in image and trust suggests, that maximum utilization of images can be supportive in strengthening consumer trust (Dilshodjon et al., 2013). Feature focused layout type was selected as the literature studies in cognitive abilities and decision making of elderly explains, that because of elderly's tendency to satisfice, information should be in feature oriented format, in order to allow elderly to examine product details (Yoon & Carpenter, 2011). As understanding of product details is what allows them to measure qualities between different products, feature oriented layout is important for elderly to conduct decision making.

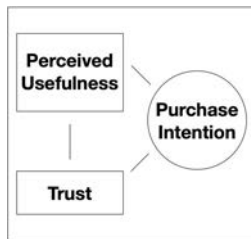
Lastly, mixed layout type was added as it is the mixture of both image and feature focused layout types, that in theory, it should create greatest effect among the 3 layout types.

<Table 3> Case Study Results of Product Information Pages

Next-day delivery online food and grocery markets (Number of items analyzed)	Product information layout types			
	Features	Image utilization		
	Number of categories that show key feature information	Focused Image types	Image mass in the page	Pattern of the image distribution
Oasis Market (64)	0	Food and package	Minimal	Regular
Market Kurly (100)	1	Food, package, about brand	Minimal	Regular
SSG Emart (126)	0~1	Food and package	Maximal	Irregular
Hello Nature (70)	5~7	Food and package	Maximal	Regular
Coupang Fresh (320)	2	Food and package	Regular	Regular
GS Fresh (31)	0	Food and package	Minimal	Irregular
Thebanchan (50)	3	Food	Regular	Regular

4. Method of study

A study model has been set to verify influence of product information page layout types on purchase intention and product quality trust of elderly consumers in HMR products



〈Figure 1〉
Study Model of the
Product Display Page

in online market. Independent variables are HMR product information page layout types in familiar and unfamiliar menu kinds, mediating variable is perceived usefulness and trust in product quality, and the dependent variable is purchase intention. <Figure 1> explains the study model. Along with the study model, hypothesis have been set in relation to investigate the study questions, and <Table 4> is the hypothesis chart for the product display information page layout.

Study questions:

- 1) Which type of layout in product information page in online sold HMR product provide improvement of trust that lead to purchase intention?
- 2) Is there a difference in product information layout types according to familiar and unfamiliar menu kinds?

〈Table 4〉 Hypothesis Chart for Product Information Page

Hypothesis		
H4	There is cause and effect relationship between perceived usefulness, trust, purchase intention in layout types of HMR product in product information pages.	
	H4.1	Perceived usefulness in layout types of HMR product information page has positive(+) influence on trust.
	H4.2	Trust in layout types of HMR product information page has positive(+) influence on trust.
	H4.3	Perceived usefulness in layout types of HMR product information page has positive(+) influence on purchase intention.
	H4.4	Trust has positive(+) mediating effect between perceived usefulness and purchase intention.
H5	There is difference in perceived usefulness, trust and purchase intention, according to layout types in HMR product information page in familiar menu kind.	
	H5.1	There is difference in perceived usefulness according to layout types in HMR product information page in the familiar menu kind.
	H5.2	There is difference in trust according to layout types in HMR product information page in the familiar menu kind.
	H5.3	There is difference in purchase intention according to layout types in HMR product information page in the familiar menu kind.
H6	There is difference in perceived usefulness, trust and purchase intention, according to layout types in HMR product information page in unfamiliar menu kind.	
	H6.1	There is difference in perceived usefulness according to layout types in HMR product information page in the unfamiliar menu kind.
	H6.2	There is difference in trust according to layout types in HMR product information page in the unfamiliar menu kind.
	H6.3	There is difference in purchase intention according to layout types in HMR product information page in the unfamiliar menu kind.

4.1. Construction of test and creation of stimulant

The study aimed to investigate purchase intention and trust in product quality in relation to perceived usefulness in layout types in HMR information pages. Stimulants have been developed based on the standards that have been set through the results of the case study. Marketkurly has been selected as sample online market as the template for creating stimulants due to a number of reasons. It is the store which carries most HMR products in South Korea in great variety, including most up to date unfamiliar items, as well as familiar items. The store is number one selling online food and grocery market in South Korea. Furthermore, the product information pages lack advertisements or visual clutters like SSG, Emart or Homeplus, so the study can be focused into the test itself. The test included the investigation of layout types in HMR information pages, that included familiar HMR product and unfamiliar product. Both familiar and unfamiliar HMR product samples were composed of 3 types of product information page layout, that include a) Image concentrated b) Key feature concentrated c) Image and key feature concentrated. Representing HMR samples are identical as display page survey.

Stimulants were randomly presented to the participants, and all participants were provided with guidelines with full explanation and understanding of HMR product information pages. The participants were asked to do the test as if performing actual online shopping.

4.2. Methodology

5 point Likert-type scale was used for the survey as Likert-type scales are useful for measuring latent constructs, that are generally thought of as unobservable individual characteristics, without concrete, objective measurement, that are believed to exist and cause variations in behavior (Converse & Stanley, 1986). The response scales used in the survey are 1 being strongly disagree, 2 disagree, 3 neutral, 4 agree and 5 strongly agree.

Likert-type scales are used for responding to questions that require levels of agreement of disagreement and the answer is not peremptory such as current study that require how a participant feels familiar or useful towards an image type or layout type in online HMR shopping environment. Product information page survey and its variables, perceived usefulness, product quality trust and purchase intention adapted 5 point Likert-type scale in the survey.

The survey have followed self-administered survey method via Google survey from October 19th, 2020 to October 26th, 2020. Stimulant images were provided as a set along with Google survey form, as it is display page layouts are lengthy, that the layout images are difficult to be seen clearly when attached to the Google survey forms. Both male and female young-old and middle-old participants in ages between 55–75 with experiences shopping food and groceries online have participated in the survey.

As shown in the below <Table 5> and <Table 6>, there were total of 48 participants with 288 responses (48 responses for product page layout type A, 48 responses for product page layout type B, 48 responses for product page layout type C for familiar menu kind, 48 responses for product page layout type A, 48 responses for product page layout type B, 48 responses for product page layout type C for unfamiliar menu kind. All 6 samples were presented in random links in order for improved accuracy of the survey result. Furthermore, as the participant number is relatively low, bootstrap method has been used for resampling method, which is the process that extract sample from empirical cumulative distribution, and at 200 count of simulation.

Below <Table 7>, <Table 8> and <Table 9> are the operating definition of variables of perceived usefulness, trust and purchase intention for product display page image survey.

<Table 5> Demographical Characteristics of Survey Participants for Product Information Page

Classification	Categorization	Product information	
		Number	Percentage
Sex	Male	22	45.8
	Female	26	54.2
Age	Late 50's	7	14.6
	60's	36	75.0
	70's	5	10.4
	Single	3	6.3
Family type	Couple without children	4	8.3
	Nuclear family	35	72.9

<Table 6> Online Shopping Characteristics of Survey Participants

Classification	Categorization	Product information page	
		Number	Percentage
Frequency in monthly online shopping	Under 1	17	35.4
	2–3	12	25.0
	4–5	15	31.3
	6–10	0	0
	More than 10	4	8.3
Monthly purchase count of HMR	Under 1	21	43.8
	2–3	17	35.4
	4–5	6	12.5
	6–10	2	4.2
	More than 10	2	4.2

(Table 7) *Operating Definition of Variables, Perceived Usefulness*

Perceived usefulness F.D. Davis (1989), Chandra S (2010)
Product information page layout such as this type will save my time when purchasing HMR product online.
Product information page layout such as this type will be efficient when purchasing HMR product online.
Product information page layout such as this type will be useful when purchasing HMR product online.

(Table 8) *Operating definition of variables, trust*

Trust Harp P & Saunders C (1997), Luhmann N (1979)
Information provided in this display image is trustworthy.
Information provided in this display image is truthful.
I can constantly make transaction by trust of this display image.

(Table 9) *Operating Definition of Variables, Purchase Intention*

Purchase intention Engle et al, (2013) Spears & Singh (2004) Oliver (1980)
I will willing to purchase a product through product information page layout such as this in online.
I am willing to purchase a product through product information page layout such as this in online for a trial.
I will continue to purchase a product through product information page layout such as this in online.

Occupation	Extended family	4	8.3
	Other	2	4.2
	Specialized job	9	18.8
	Office worker	6	12.5
	Sales/Service	.	.
	Production	2	4.2
	Self-employed	3	6.3
	Housewife	16	33.3
	Other	11	22.9
Education	Highschool	6	12.5
	Junior college	3	6.3
	Undergraduate	23	47.9
	Graduate	16	33.3

Genre preference in HMR	Frozen rice	2	4.2
	Noodles	3	6.3
	Boonsik	0	0
	Gook/tang/jjigae	18	37.5
	Porridge/Soup	0	0
	Curry/Jjajang	3	6.3
	Frozen bread	0	0
	Dumplings	8	16.7
Purchase only by display image	Yes	27	56.3
	No	21	43.8
Purchase only by product information	Yes	31	64.6
	No	17	35.4

5. Test results

5.1. Validity and reliability of measuring tool

Exploratory factor analysis have been conducted to analyze validity and trust of measuring instrument, Cronbach have been measured in order to investigate internal consistency of measuring tool. For exploratory factor analysis, factor loading was estimated by principal component and varimax was used for rotation.

Factor1, 'purchase intention, factor2, 'usefulness', factor3, 'trust' have been recognized as result of exploratory factor analysis, factor load value were all higher than 0.7, eigenvalue of each factor were all above 1.0, cumulative variation explained by 3 factors explained by 3 factors were satisfactory with 91.963%, all higher than 50.0%, that proved validity and trust of product information group. Results of Cronbach were satisfactory in terms of internal consistency with all above 0.7, with usefulness 0.950, trust 0.947, purchase intention 0.955. <Table 10> shows the result of the exploratory factor analysis.

(Table 10) *Measuring Tool for Exploratory Factor Analysis*

Construct	Items (Items)	factor 1	factor2	factor 3	Cronbach α
Perceived usefulness	Perceived usefulness1	0.298	0.850	0.312	0.950
	Perceived usefulness2	0.356	0.826	0.368	
	Perceived usefulness3	0.440	0.723	0.422	
trust	trust1	0.414	0.459	0.742	0.947
	trust2	0.428	0.423	0.757	
	trust3	0.492	0.391	0.705	
Purchase intention	Purchase intention1	0.781	0.382	0.409	0.955
	Purchase intention2	0.831	0.353	0.316	
	Purchase intention3	0.813	0.323	0.408	
Model statistics	Eigenvalue	2.967	2.845	2.465	
	% explained	32.969	31.610	27.384	
	Total % explained	32.969	64.579	91.963	

Standard regression coefficient of survey questionnaires in product information group was significant, with above 0.7, suitability of equation model was below 3.0 with /df=2.463, RMSEA=0.101 which is above standard of 0.8, GFI=0.931, NFI=0.972, TLI=0.971, CFI=0.983 all above standard of 0.9, product information fitness have been proved as

significant <Table 11>.

<Table 11> *Confirmatory Factor Analysis*

Items	Nonstandard		Standard b	t
	B	s.e.		
Usefulness1	1		0.889	
Usefulness2	1.155	0.059	0.963	19.654***
Usefulness3	1.115	0.06	0.940	18.459***
trust1	1		0.956	
trust2	0.932	0.036	0.953	25.672***
trust3	0.961	0.046	0.906	20.900***
Purchase intention1	1		0.955	
Purchase intention2	0.999	0.048	0.909	20.756***
Purchase intention3	0.96	0.04	0.942	24.078***
Fitness	$\chi^2=51.722***$, $\chi^2/df=2.463$, GFI=0.931, NFI=0.972, TLI=0.971, CFI=0.983, RMSEA=0.101			

Data processing have been conducted with 48 respondents. Since the number of survey respondents are comparatively low, bootstrap method has been used for resampling method, which is the process that extract sample from empirical cumulative distribution, and at 200 count of simulation. Statistics package used in the analysis were SPSS 25.0 and AMOS 25.0. Detailed statistics methodology is as follows.

First, frequency analysis have been conducted to identify general characteristics of samples. Second, exploratory factor analysis have been conducted to analyze validity and trust of measuring tool, then Cronbach α have been calculated to analyze internal consistency of measuring tool. Next, suitability of observed model have been measured through confirmatory factor analysis with observed model of SEM: Structural Equation Modeling. Third, as basic analysis, descriptive statistics were presented including, standards and standard deviation of study variables, Pearson correlation coefficient was presented in order to analyze correlation of study variables. Fourth, Pearson X^2 test have been conducted via crosstabs analysis in order to investigate differences according to HMR purchase type variables of survey demographics. Fifth, mediating effect of trust was analyzed to after applying SEM casualty model in order to test structural cause and effect of study variables. Multi-group analysis have been conducted to test moderation effect of familiar and unfamiliar kinds, monthly number of HMR product purchase, and yes or no to shopping experiences just by looking at display page images and just by reading product information pages without any information of the specific HMR product in the past.

<Table 12> *Descriptive Statistics of Study Variables*

Variables	ave.	s.d.
Perceived usefulness	2.05	0.45
Trust	3.66	0.94
Purchase intention	3.48	0.94

5.2. Analysis of actual proof

<Table 12> is a Table which organized basic descriptive statistics which include standards and standard deviation of study variables in product Information page. According to the Table, trust was highest with average of 3.66, purchase intention was next with 3.48 average which was all marked higher than ‘neither agree nor disagree’, perceived usefulness was 2.05 in average marking close to ‘disagree’. However, trust and purchase intention in product information page was marked higher than that of display page, whereas usefulness of product information page was marked lower than familiarity of display page.

<Table 13> organizes Pearson correlation coefficient which analyzes correlation between study variables in product information pages. According to the table, usefulness, trust,

<Table 13> *Correlation of Study Variables*

Product information			
Variable	Perceived usefulness	Trust	Purchase intention
Perceived usefulness	1		
Trust	.614**	1	
Purchase intention	.536**	.900**	1

purchase intention all have highly positive(+) correlation.

<Table 14> is the analysis result of structural cause and effect relationship of product information group. The result of the analysis proved significantly positive effect of perceived usefulness towards trust with $b=0.879(p<.001)$. That is, in the case of product information, when usefulness was raised, trust was also raised positively. Therefore hypothesis H4.1 has been accepted.

As for effect of trust toward purchase intention, there was a positive significant effect with $b=0.691(p<.001)$. That is, when trust of product information raises, purchase intention had raise in positive significant effect, and by this, hypothesis H4.2 has also been accepted.

Lastly, effect of perceived usefulness toward purchase intention also had a positive significant effect with direct effectiveness of $b=0.207(p<.05)$. In short, when perceived usefulness is raised, there was direct raise in purchase intention in product information. Therefore, hypothesis H4.3 has been accepted. Fitness of casualty model in product information was under 3.0 with $\chi^2/df=2.564$, above 0.9 with GFI=0.950, NFI=0.977, TLI=0.977, CFI=0.986, however with RMSEA=0.105 which is slightly higher than 0.8, it proved that it is in acceptable level.

<Table 14> *Result of Casualty Model*

Independent variable	Dependent variable	Nonstandard		Standard b	t
		B	s.e.		
Perceived usefulness	Trust	0.988	0.069	0.879	14.323***
Trust	Purchase intention	0.767	0.118	0.691	6.487***
Perceived usefulness	Purchase intention	0.259	0.129	0.207	2.010*
Fitness		$\chi^2=56.413***$, $\chi^2/df=2.564$, GFI=0.928, NFI=0.969, TLI=0.969, CFI=0.981, RMSEA=0.105			

<Table 15> *Effectiveness Analysis*

Independent variable(a)
Perceived usefulness
Parameter (b)
Trust
Dependent variable(c)
Purchase intention
Direct effect a→c
0.013
Indirect effect a→b→c
0.722***
Total effect (Direct + Indirect)
0.735***

5.3. Effectiveness analysis

<Table 15> is the Table of effectiveness analysis including product information page's direct effect, indirect effect and total effect. According to the table, direct effect of perceived usefulness towards purchase intention was not significant with $b=0.013(p>.05)$, however, when trust was mediated by Perceived usefulness there was positive significance in mediating effect with $b=0.722(p<.001)$, and by this, hypothesis H4.4 has been accepted. Furthermore, the result of total effect that include direct effect and indirect effect had positive significant effect with result of $b=0.735(p<.001)$. That is, when Perceived usefulness is raised 1σ , purchase intention was raised in general of 0.722σ .

5.4. Multi-group analysis (Test of moderation effect)

Multi-group analysis has been conducted in order to test the moderation effect of general characteristics and shopping characteristics of the survey demographics, monthly HMR purchase count as well as purchase experience of HMR just by seeing product information page. Furthermore, verification of positive difference relation of structural equation between familiar menu kind and unfamiliar menu kind.

<Table 16> is a list of chart which include test result of moderation effect in usefulness towards trust in groups of categories according to sex, family type, occupation, level of education, monthly income, monthly online shopping frequency, number of HMR purchase, within the product information page group. According to the chart, in family type, nuclear family had greater effect of usefulness toward trust with $\beta=0.891(p<.001)$ and

non-nuclear family with $\beta=0.785(p<.001)$, while the difference being $z=-1.979$ ($p<.05$). As for monthly income, elderly with monthly income higher than 400 million won had greater effect of usefulness toward trust with $\beta=0.899(p<.001)$, compared to elderly with monthly income lower than 300 million won with $\beta=0.850(p<.001)$, while the difference being $z=1.968(p<.05)$. No significant positive moderation effect was found in the rest of the variables.

<Table 16> Moderation Effect of Demographics and Shopping Characteristics

Variable	Classification	Usefulness → Trust	
		β	Difference verification z
Menu kind	Familiar menu	0.776***	2.492*
	Unfamiliar menu	0.955***	
Sex	Male	0.875***	0.987
	Female	0.876***	
Family type	Nuclear family (family of 4 or more)	0.891***	-1.979*
	Non nuclear family (family of 2 or less)	0.785***	
Occupation	Housewife	0.914***	-0.432
	Office worker / etc.	0.857***	
Education	Below undergraduate	0.889***	-0.069
	Above undergraduate	0.839***	
Monthly income	Below 3 million won	0.850***	1.968***
	Above 4 million won	0.899***	
Online shopping frequency	Less than 1	0.856***	1.461
	More than 2	0.882***	
HMR purchase count	Less than 1	0.867***	1.349
	More than 2	0.865***	

Multi-group analysis have been conducted to verify positive difference relation of structural equation between familiar menu kind and unfamiliar menu kind. As the result, influence of trust through perceived usefulness in the familiar menu kind was $b=0.707(p<.005)$, and unfamiliar menu kind was $b=0.867(p<.005)$, that proved it was more influential in the unfamiliar menu kind by $z=1.843(p>.5)$ but there was no significant differences. However unfamiliar menu kind had stronger affect on trust than familiar menu kind with significant level at 0.1. Influence of purchase intention through trust in familiar menu kind was $b=0.813(p<.001)$, and unfamiliar menu kind was $b=0.937(p<.005)$, that proved both kinds had significant positive effect, the difference was only $z=0.992$ therefore not significant.

Both familiar menu kind and unfamiliar menu kind had insignificant difference in influence of purchase intention through familiarity with influence difference of $z=-0.680$. <Table 17> is the of comparison between familiar and unfamiliar menu kinds.

<Table 17> Comparison Between Familiar Food Kind and Unfamiliar Food Kind

Independent variable	Dependent variable	Familiar menu		Unfamiliar menu		Difference verification z
		b	t	b	t	
Perceived usefulness	Trust	0.707	10.578***	0.867	11.599***	1.843
Trust	Purchase intention	0.813	10.800***	0.937	6.047***	0.992
Perceived usefulness	Purchase intention	0.026	0.385	-0.084	-0.575	-0.680

Moderation effect of monthly HMR purchase count have been analyzed. As the result, there were positive effect with under 1 HMR purchase was $b=0.862(p<.001)$, more than 1 HMR purchase was $b=0.872(p<.001)$, however, the difference was only $z=1.471$ ($p>.05$) therefore not significant. As for affect of trust toward purchase intention, there

were positive effect with under 1 HMR purchase was $b=0.841(p<.001)$, more than 1 HMR purchase was $b=0.639(p<.005)$, however was not significant with difference only $z=-1.095$. As for affect of usefulness toward purchase intention, under 1 HMR purchase was not significant, however more than twice had significant positive effect with $b=0.309(p<.01)$, with difference in effect also significant with $z=2.003(p<.05)$. <Table 18> is the result of the test.

<Table 18> Moderation Effect of Monthly HMR Purchase Count

Independent variable	Dependent variable	Under 1		more than 2		Difference verification z
		b	t	b	t	
Perceived usefulness	Trust	0.862	11.235***	0.872	9.317***	1.471
Trust	Purchase intention	0.841	5.334***	0.639	5.176***	-1.095
Perceived usefulness	Purchase intention	-0.008	-0.054	0.309	2.611**	2.003*

For moderation effect result of affect of usefulness toward trust, there were significant positive effect in with responding yes, $b=0.871(p<.001)$, and respond of no, $b=0.886(p<.001)$, however not significant with difference only $z=-0.604(p>.05)$. For affect of trust toward purchase intention, there were significant positive effect with responding yes, $b=0.700(p<.001)$, and respond of no, $b=0.751(p<.001)$, however not significant with difference only $z=0.530$. Lastly, there were no significant effect in both yes and no group with difference of effect $z=-0.530$. <Table 19> shows the result of the moderation effect.

<Table 19> Moderation Effect of Experience of Purchasing HMR Just by Seeing Product Information Page

Independent variable	Dependent variable	Yes		No		Difference verification z
		b	t	b	t	
Perceived usefulness	Trust	0.871	10.487***	0.886	10.470***	-0.604
Trust	Purchase intention	0.700	5.610***	0.751	4.093***	0.530
Perceived usefulness	Purchase intention	0.226	1.904	0.099	0.545	-0.530

5.5. Case comparison






















<Table 20> is the variance analysis result of types in familiar menu kind and unfamiliar menu kind in product information page group, and <Table 21> and <Table 22> are the layout style examples utilized in the test. There was no significant difference in both familiar menu kind and unfamiliar menu kind in trust and purchase intention, although there was significant difference in perceived usefulness by $F=32.456(p<.001)$ in familiar menu kind, and $F=37.541(p<.001)$ in unfamiliar menu kind. However, there was significant difference in trust in unfamiliar menu kind in with significance level 0.1. Therefore, H5.1 and H5.2 were accepted, but H5.3, H6.1, H6.2, H6.3 were rejected.

In familiar menu kind, mixed type was the highest, feature focused type was next and image focused type followed, with average of 1.56 in image focused type, average of 1.94 in feature focused type, and average of 2.28 in mixed type. Order was the same with unfamiliar menu kind, mixed type was highest with average of 2.53, then was feature focused type with 2.24 and image focused was 1.75.




〈Table 20〉 Difference Analysis of Types in Study Variables

Classification	Variables	Types	Mean	s.d.	F	p
Familiar menu kind	Perceived usefulness	Image-focused	1.56	0.29	32.456	0.000***
		Feature-focused	1.94	0.31		
		Mixed	2.28	0.34		
	Trust	Image-focused	3.68	0.90	0.429	0.653
		Feature-focused	3.92	0.76		
		Mixed	3.85	1.04		
	Purchase intention	Image-focused	3.47	0.89	0.506	0.605
		Feature-focused	3.72	0.77		
		Mixed	3.67	1.04		
Unfamiliar menu kind	Perceived usefulness	Image-focused	1.75	0.30	37.541	0.000***
		Feature-focused	2.24	0.29		
		Mixed	2.53	0.35		
	Trust	Image-focused	3.15	1.04	2.441	0.095
		Feature-focused	3.69	0.70		
		Mixed	3.65	1.06		
	Purchase intention	Image-focused	3.14	1.08	0.830	0.441
		Feature-focused	3.47	0.82		
		Mixed	3.43	1.02		

〈Table 21〉 Stimulants for HMR Product Information Page, Familiar Menu Kind

Kind	Image focused	Key feature focused	Image and key feature focused
Familiar	        	     	     

<Table 22> Stimulants for HMR Product Information Page, Unfamiliar Menu Kind

Kind	Image focused	Key feature focused	Image and key feature focused
Unfamiliar	 A screenshot of a product information page for 'Koryu' brand HMR products. The layout is image-focused, featuring a large hero image at the top showing a bowl of food, followed by several smaller images of different product packages and bowls of food. The text is minimal and placed around the images.	 A screenshot of a product information page for 'Koryu' brand HMR products. The layout is key feature-focused, with a large hero image at the top, followed by a series of smaller images of product packages and bowls of food. The text is more prominent than in the image-focused version, highlighting specific features of the products.	 A screenshot of a product information page for 'Koryu' brand HMR products. The layout combines image and key feature focus, with a large hero image at the top, followed by a series of smaller images of product packages and bowls of food. The text is more prominent than in the image-focused version, highlighting specific features of the products.

6. Conclusion

6.1. Summary of the test analysis

Result of <Hypothesis 4: There is cause and effect relationship between perceived usefulness, trust, purchase intention in layout types of HMR product in product information pages> was as follows.

According to the analysis result of structural cause and effect relationship of product information group, the result of the analysis proved significantly positive effect of perceived usefulness towards trust with $b=0.879(p<.001)$. That is, in the case of product information, when usefulness as raised, trust was also raised positively. Therefore hypothesis H4.1, 'perceived usefulness in layout types of HMR product information page has positive(+) influence on trust' has been accepted.

As for effect of trust toward purchase intention, there was a positive significant effect with $b=0.691(p<.001)$. That is, when trust of product information raises, purchase intention had raise in positive significant effect., and by this, hypothesis H4.2, 'trust in layout types of HMR product information page has positive(+) influence on trust' has also been accepted.

Effect of perceived usefulness toward purchase intention also had a positive significant effect with direct effectiveness of $b=0.207(p<.05)$. In short, when perceived usefulness is raised, there was direct raise in purchase intention in product information. Therefore, hypothesis H4.3, 'perceived usefulness in layout types of HMR product information page has positive(+) influence on purchase intention' has been accepted.

Through effectiveness analysis, direct effect of perceived usefulness toward purchase intention was not significant with $b=0.013(p>.05)$, however, when trust was mediated by Perceived usefulness there was positive significance in mediating effect with $b=0.722(p<.001)$, and by this, hypothesis H4.4, 'trust has positive(+) mediating effect between perceived usefulness and purchase intention' has been accepted. <Table 23> summarizes the result.

Result for <Hypothesis 5: There is difference in perceived usefulness, trust and purchase intention, according to layout types in HMR product information page in familiar menu kind> and <Hypothesis 6: There is difference in perceived usefulness, trust and purchase intention, according to layout types in HMR product information page in unfamiliar menu kind> were as follows. Through variance analysis result of types in both familiar menu kind and unfamiliar menu kind in the product information page group, there were no significant differences in both menu kinds in trust and purchase intention, although there was significant difference in perceived usefulness by $F=32.456(p<.001)$ in familiar menu kind, and $F=37.541(p<.001)$ in unfamiliar menu kind. However, there was significant difference in trust in unfamiliar menu kind in with significance level 0.1. Therefore, H5.1 and H5.2 were accepted, but H5.3, H6.1, H6.2, H6.3 were rejected.

<Table 23> Hypothesis Chart

Hypothesis				
H4	There is cause and effect relationship between perceived usefulness, trust, purchase intention in layout types of HMR product in product information pages.			
	H4.1	Perceived usefulness in layout types of HMR product information page has positive(+) influence on trust.	O	
	H4.2	Trust in layout types of HMR product information page has positive(+) influence on trust.	O	
	H4.3	Perceived usefulness in layout types of HMR product information page has positive(+) influence on purchase intention.	O	
	H4.4	Trust has positive(+) mediating effect between perceived usefulness and purchase intention.	O	
H5	There is difference in perceived usefulness, trust and purchase intention, according to layout types in HMR product information page in familiar menu kind.			
	H5.1	There is difference in perceived usefulness according to layout types in HMR product information page in the familiar menu kind.	O	
	H5.2	There is difference in trust according to layout types in HMR product information page in the familiar menu kind.	O	
	H5.3	There is difference in purchase intention according to layout types in HMR product information page in the familiar menu kind.		X

H6	There is difference in perceived usefulness, trust and purchase intention, according to layout types in HMR product information page in unfamiliar menu kind.		
	H6.1	There is difference in perceived usefulness according to layout types in HMR product information page in the unfamiliar menu kind.	X
	H6.2	There is difference in trust according to layout types in HMR product information page in the unfamiliar menu kind.	X
	H6.3	There is difference in purchase intention according to layout types in HMR product information page in the unfamiliar menu kind.	X

6.2. Summary of the study conclusion

In the case of product information page, perceived usefulness had significant positive effect toward product quality trust, and product quality trust had significant positive effect toward purchase intention, and lastly, perceived usefulness had significant positive effect toward purchase intention. That is, in the case of product information page, structural cause and effect relationship between all perceived usefulness, trust, purchase intention have significant positive effect. Especially, affect of perceived usefulness towards product quality trust was most effective with $b=0.879(p<.001)$, next was affect of trust towards purchase intention with $b=0.691(p<.001)$, then affect of perceived usefulness toward purchase intention had the lowest effect with $b=0.207(p<.05)$. Meanwhile, there was significant positive mediating effect in perceived usefulness and purchase intention, when mediating effect of product quality trust was applied.



There was significant positive effect in structural cause and effect relationship of both familiar and unfamiliar menu kinds, except in the direct affect of perceived usefulness towards purchase intention in the unfamiliar menu kind, in the test of moderation effect of structural cause and effect relationship in familiar and unfamiliar menu kinds. Also, unfamiliar menu kind had greater effect than the familiar menu kind in terms of effect of perceived usefulness in product quality trust with unfamiliar menu kind at $b=11.837(p<.001)$, familiar menu kind at $b=0.7886(p<.001)$ with its difference of $z=2.493(p<.05)$. In unfamiliar menu kind, it is not easy to induce elderly directly to purchase intention even though the product information in perceived useful, because elderly are not familiar with product information, but when given product information was perceived as useful, there can be a greater raise in product quality trust than the familiar menu kinds in the long term, that can ultimately catalyze purchase intention considerably. Difference was verified between perceived usefulness, product quality trust, and purchase intention in both familiar and unfamiliar menu kinds in product information page. In the product information page test, there was no significant difference in trust in product quality and purchase intention although there were significant difference in perceived usefulness in both familiar and unfamiliar menu kinds. In perceived usefulness which had significant difference in both familiar and unfamiliar menu kinds, mixed type had the highest mark, next was feature focused type, then was image focused type. In trust in product quality and purchase intention, that did not have significant difference in both familiar and unfamiliar menu kinds, there was almost no difference in mark between feature focused type and mixed type, contrastingly, image focused type marked considerably low mark than feature focused type and mixed type, that it is desirable to refrain from providing image focused type of product information.

6.3. Conclusion and implication of the study

The study investigated structural relationship between purchase intention and improvement of trust in product quality through perceived usefulness in product information layout types of online HMR products, in hopes of supporting elderly consumers with shopping HMR products in online markets.

The result of the study proved that the product quality trust have marked relatively high although provided perceived usefulness of product information page layout was yet, considerably low, in basic descriptive statistics of perceived usefulness, product quality trust, and purchase intention of product information page examination. This could be

〈Table 24〉 Layout Style Suggestion for Familiar and Unfamiliar Online HMR Products

For familiar HMR products	For unfamiliar HMR products
	

explained that the elderly consumers were satisfied as the quality of products were higher than what they have expected, although they have low trust with the product information page layouts in online shopping environment. Raise in product quality trust or purchase intention can be expected with development in product information page layout types, and suggestion for product information page layout style is presented in below <Table 24>. Second, it has been proved that the perceived usefulness in product information page brings trust in product quality with increase in purchase intention. It has also been verified that the perceived usefulness in product information page influences purchase intention directly. When familiar menu kind and unfamiliar menu kind are compared, there was no direct effect of perceived usefulness on purchase intention in unfamiliar menu kind. However, when perceived usefulness in product information page is raised, it raises trust in product information page, which can then be mentioned to have greater mediating effect in unfamiliar menu kind than the familiar menu kind. That is, although the familiar menu kind have higher effect on purchase intention by perceived usefulness of product information page, when product quality trust is utilized as mediator, mediating effect in unfamiliar menu kind is also great, that direct or indirect intention towards purchase intention is unnecessary, and providing perception of usefulness in product information page is the key in the HMR product planning strategy. Meanwhile, in improvement of perception of usefulness when looking at presentation types of product information, mixed type was remarkably effective than image focused layout or feature focused layout. Therefore, it can be seen that diverse project proposal to provide mixed type layout of product information page is urgent.

The result and the findings of the study will work as a supportive resource during the planning stage of constructing online stores targeting for elderly consumers, especially in the field of home meal replacement products.

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