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경영학석사 학위논문

Is Convenience Always Nice?

: The Downside of Consumption Convenience

편리성이 소비자 만족에 미치는 상반된 영향
: 식품 소비를 중심으로

2020 년 08 월

서울대학교 대학원

경영학과 경영학 전공

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이 논문을 경영학석사 학위논문으로 제출함

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Abstract

Is Convenience Always Nice? : The Downside of Consumption Convenience

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Convenience is one of the major factors in prosperity of mankind and technological developments in terms of effort and time saving. Hence, many studies have explored on the utility functions for understanding convenience and its effects, yet little empirical work has been explored on psychological downside of convenience. To this end, this paper aims to determine the distinct effects of consumption convenience product experiences on customer evaluation.

The present research identifies that convenience not only has positive relationship with its utility function in perceived efficiency, but also holds negative psychological assessments in perceived value.

Also, this research features the role of need for cognition for further understanding of relationships between consumption convenience and its effects.

Data based on two experiments (N = 288 and 273) have yielded corresponding results consistent with the proposed hypothesis. The first study comprises a recall-based survey where participants were required to recall their last experience of having consumption convenience product, i.e., retort food. A scenario-based experiment was conducted for the second study where participants were assigned to each condition either having 'retort food' (convenience) or 'self-cooking' (inconvenience) and assessed need for cognition at the end. The results of both experiments have revealed the distinct causal relationship between consumption convenience and the proposed variables.

This paper has shed lights on the downside of convenience, which is often neglected in studies, and also has revealed the moderating role of need for cognition.

Keywords: consumption convenience, perceived efficiency, perceived value, need for cognition, customer satisfaction

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1. Introduction

The ongoing development of technology, even to this very day, is highly associated with the needs of mankind striving for convenience. From the beginning of the history and throughout the industrial revolution, humans have developed tools and services to increase efficiency and quality of life (Schwab 2016). Accordingly, numerous studies have focused on these prevalent notions of convenience, yet little empirical work has been explored on psychological downside of convenience. To this end, this paper aims to determine the distinct effects of consumption convenience product experiences on customer evaluation.

Convenience typically refers to “the ability to reduce consumers’ non-monetary costs i.e., time, energy and effort, when purchasing or using goods and services” (Srivastava and Kaul 2014, p.1030). Many studies and real-life applications have adapted such utility in their fields, even in the food industries. Individuals are now able to easily acquire pre-cooked packaged foods on any store shelves and have them as a meal, saving vast amount of non-monetary costs. However, are these products always perceived positively to consumers? If not, what could be the downside of these products?

Present research, therefore, aims to reveal the unexplored

underlying mechanisms of consumption convenience products, its effects and possible boundary conditions. Throughout empirical studies, it has been revealed that consumers not only perceive higher efficiency from consumption convenience products but also perceive lower value, consistent with the proposed hypothesis. The study begins with research on conceptual background and establishment of hypotheses.

2. Conceptual Background and Hypothesis

2.1 Consumption Convenience

Convenience has become an important factor for understanding consumer behavior due to enhancement of technologies, socio-economic changes and the high competition in the marketplace (Seiders, Voss, Godfrey and Grewal 2007; Farquhar and Rowley 2009). However, majority of the researches on convenience has been focused on the service context. Representatively, Berry, Seiders and Grewal (2002) has defined five different types of service convenience, which are decision, access, transaction, benefit and post-benefit convenience. Empirical findings and numerous other studies from Bellante and Foster (1984); Brown (1990); Seiders, Berry and Gresham (2000); Seiders, Voss, Grewal and Godfrey (2005), indicate that service convenience is significantly related with the cost of time and effort. Higher the service

convenience, lower the time and effort consumed by people in which positively affects consumers' overall evaluation and satisfaction towards the service.

Studies of product convenience, representatively by Brown (1989), has defined five types of convenience, which are time, place, acquisition, use and execution. Empirical findings and other studies from Reilly (1982); Anderson and Shugan (1991), indicate that the cost of time and effort is also significantly related with product convenience, featured by its acquisition and usage. Ease of acquisition and use of consumption convenience products have functioned as time and effort saving behavior for customers which have also positively affected customer satisfaction towards the product (Srivastava and Kaul 2014).

Consequently, linked not only with services but product convenience is also highly related with the cost of time and effort. Higher the convenience for consuming a product, higher the time and effort is being saved. Therefore, equate with service convenience, consumption convenience food products, defined as “Fully or partially prepared foods in which a significant amount of preparation time, culinary skills, or energy inputs have been transferred from the home kitchen to the food processor and distributor” (Traub and Odland 1979, p.3), i.e., retort food (packaged precooked

microwavable product) throughout the paper, would positively affect customer satisfaction. However, consumption convenience products may not always form positive relationship with customers. The details of this matter will be discussed later on.

2.2 Perceived Efficiency

Perceived efficiency, obtained through an exchange between what is given for the purchase; time and effort, and the utility for obtaining such (Holbrook 1999), is highly associated with convenience. Studies define that peoples' perceived efficiency is derived from the minimum amount of psychological, temporal and behavioral resources invested for yielding maximum benefit in return (Holbrook, 1999; Sánchez–Fernández and Iniesta–Bonillo 2009).

As described previously, consumption convenience is derived by the cost of time and effort saving. Since consumers are able to save time and effort by preparing consumption convenience products, due to its simplicity of a task where consumers are required minimum information for the process of preparing (Reilly 1982; Anderson and Shugan 1991, Candel 2001), it is pertainable that consumers will perceived higher efficiency through consuming consumption convenience products compared to that of cooking a genuine meal.

Consequently, people take utility from convenience of a

products which saves their time and effort for consuming them. Due to simplified process of cooking consumption convenience products, consumers are able to prepare a meal effortlessly and less time-consumingly. These features are directly linked with perceived efficiency since people perceive efficiency through simplified transfer of information and reduced complexity of a task. Furthermore, studies have shown the linkage between convenience, efficiency and customer satisfaction (Colwell, Aung, Kanetkar and Holden 2008; Sánchez-Fernández and Iniesta-Bonillo 2009), which leads to presuming the following:

H1. The relationship between consumption convenience and customer satisfaction will be mediated by perceived efficiency.

Specifically,

H1a. Consumption convenience will positively affect perceived efficiency.

H1b. Perceived efficiency will positively affect customer satisfaction.

2.3 Perceived Value

Previous findings have dealt with convenience and its effects on efficiency that convenience saves consumers time and effort. However, convenience in terms of food consumption can be commonly linked with quality of the product. Retort food for instance, is comparatively easy to prepare than cooking a meal in terms of preparation time and means to cook but with lower quality and taste in exchange (Reilly 1982; Anderson and Shugan 1991). On the other hand, cooking a genuine meal consumes far much time and effort to prepare but can be expected to have higher quality and taste.

In the services context, convenience may bring high value for its customers since service convenience delimits psychological stress of customers during service process (Berry et al. 2002). However, in the food consumption context, convenience may bring negative relationship with customers' perceived value towards the product due to its lack of quality and taste. When preparing same types of dish, manually cooked food could be considered more valuable than that of retort food in terms of quality and taste, since consumers perceive value from a product by having a trade-off between what they have acquired and the total sacrifices they have made (Zeithaml 1988).

Value in customer viewpoint, can be divided into use value

(Bowman and Ambrosini 2000) and value-in-use (Macdonald, Kleinaltenkamp and Wilson 2016). Use value is defined as the perceived usefulness of the product on offer, while value-in-use is defined as consumers' functional outcome, purpose or objective that is served through product usage. In terms of value-in-use, people seek value to fulfill their objective of obtaining benefits from using a product or a service (Ulaga 2003). Furthermore, value is weighted by individuals' assessments on the trade-off between what is offered and what is given (Zeithaml 1988; Boksberger and Melsen 2011). Therefore, it can be speculated that consumption convenience products could negatively affect consumers' perceived value due to its lack of taste and quality despite its expense.

Perceived value itself, however, will have positive effect on customer satisfaction since studies have shown that quality assessments and perceived value is directly linked to the formation of customer satisfaction (Cronin and Taylor 1992; Parasuraman, Zeithaml and Berry 1994; Spiteri and Dion 2004), thus presuming the following:

H2. The relationship between consumption convenience and customer satisfaction will be mediated by perceived value.

Specifically,

H2a. Consumption convenience will negatively affect perceived value.

H2b. Perceived value will positively affect customer satisfaction.

2.4 Need for Cognition

Need for cognition is a well-established construct to distinguish measures of individual differences in many empirical studies (Cacioppo, Petty, Feinstein and Jarvis 1996). It has been widely used in various psychological studies such as heuristic versus systematic processing and source credibility effects (Wood and Swait 2002), but in consumer behavior studies as well. For example, studies from Venkatraman, Marilino, Kardes and Sklar (1990) revealed the need for cognition effect on types of advertisement and studies of Batra and Stayman (1990) revealed need for cognition moderating the effect of mood on evaluation of advert messages.

Need for cognition is defined to the extent whether an individual have the tendency to engage in and enjoy cognitive activities or thinking (Cacioppo and Petty 1982). In other words, those individuals scoring low in need for cognition tend to avoid activities requiring cognitive thinking. On the other hand, individuals

scoring high in need for cognition prefer activities that require high cognitive effort and intrinsically enjoy thinking process (Haugtvedt, Petty and Cacioppo 1992; Cacioppo, Petty, Kao and Rodriguez 1986; Cacioppo, Petty and Morris 1983). Thus, individuals with high need for cognition are more likely to prefer acquiring information while those with low need for cognition prefer low context materials which makes their comprehension easier (Bradley and Meeds 2004).

Therefore, since need for cognition refers to the level of an individuals' motivation in engaging in effortful information processing (Cacioppo and Petty 1982), adverse effect on individuals' perceived efficiency might occur while having consumption convenience products depending on the level of need for cognition. The relationship between consumption convenience with perceived efficiency could be negatively affected by those high in need for cognition, since consumption convenience products does not require effortful activities or thinking to prepare, peoples' intrinsic motivation to challenge cognitive tasks negatively influences the process. On the other hand, those individuals with low need for cognition will positively affect the relationship due to their inherit desire to avoid cognitive thinking, which is featured by consumption convenience products.

Furthermore, consumer researches have proven that

individuals with high level of need for cognition are intrinsically motivated to, and derives value from mentally stimulating tasks (Inman, McAlister and Hoyer 1990; Cacioppo and Petty 1982). In other words, when those individuals with high need for cognition are faced with a task or a situation which does not require effortful cognitive endeavors, their value towards such task will diminish. Therefore, those individuals with high need for cognition may negatively influence the relationship between consumption convenience and perceived value due to the simplicity of the task.

Thus, it is predictable that the level of need for cognition can both influence the relationship between consumption convenience with perceived efficiency and perceived value. Therefore, its mechanisms remain to be explored, leaving us to presume the following:

H3. Need for cognition will moderate the impact of consumption convenience on perceived efficiency and perceived value.

Specifically,

H3a. The positive effect of consumption convenience on perceived efficiency will be negatively affected by high need

for cognition.

H3b. The negative effect of consumption convenience on perceived value will be negatively affected by high need for cognition.

The overall hypotheses and the research model are summarized in Fig. 1.

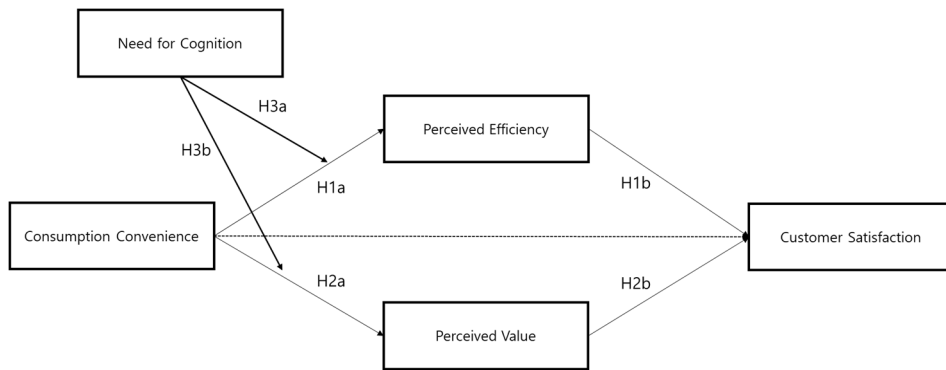


Fig 1. Research Model

3. Study 1

Initially, in order to establish the causal relationship of consumption convenience to customer satisfaction and its underlying mechanisms, a recall survey was initially conducted. Study 1 examines primarily on the mediating role of perceived efficiency and perceived value between consumption convenience towards customer satisfaction.

3.1 Participants and Procedure

The research was designed as a recall-based survey and recruited participants through Prolific, the European online survey software, with a reward in return. Initially, 310 respondents were obtained but later eliminated 22 samples through the attention check (refer to *2.3.1 Attention check*). The final sample for analysis was comprised of 288 respondents. The respondents were mostly in their 20's (49.7%) followed by 30's (27.4%) and 162 respondents (56.3%) were male. Once recruited, the respondents were assigned to fill in a survey regarding their latest experience of having consumption convenience foods, i.e., retort foods, within the last three months.

Respondents were first assigned to recall their most recent experience of having retort food within the last three months and were required to type down the specific brand and name of the product. Then, they answered a series of questions on constructs of consumption convenience, perceived efficiency, perceived value, customer satisfaction and social demographics.

3.2 Scales

Each construct was measured on a 7-point scale anchored by 'Highly disagree (1) and Highly agree (7)' and 'Very high (1) and Very low (7)' for some constructs of perceived value. Consumption

convenience was measure with two items adapted from Berry et al. (2002), "(1) The product was readily available for you, (2) The product was easy to acquire". Perceived efficiency was measured using a five-item measure adapted from Berry et al. (2002) and Mathwick, Malhotra and Rigdon (2002). They were "(1) The product has saved your time of preparing food, (2) The product was easy to clean up after eating, (3) Not much effort was needed to prepare the product, (4) Not much tool was required to prepare the product, (5) It was efficient to prepare the product". Perceived value was measured with a reverse scale using four-item measure adapted from Sweeney and Soutar (2001). They were "(1) The product worth less for a meal than homemade food, (2) The quality of the product compared to homemade food was, (3) The product worth less than what you have paid for, (4) The value of the product compared to homemade food was".

Finally, customer satisfaction was measured with multiple measures which recent studies have tended to use in order to reduce measurement error (Oliver 1980; Swan and Trawick 1981; Westbrook and Oliver 1981). Among five multi-item scales: verbal, graphic, Likert, semantic differential and inferential measures introduced by Yi (1990), semantic differential scale was adopted since it is known to have the highest reliability and validity in studies from Oliver (1981). Modified from Westbrook and Oliver (1981), the

measures were "(1) Terrible to Delighted, (2) Not enjoyable to Enjoyable, (3) Dissatisfied to Satisfied".

3.3 Results

3.3.1 Attention Check

Due to the recall survey, those who did not remember their latest experience of having retort food were automatically declined. Respondents were required to type in the specific brand and name of the product and select the approximate period of having it within the last three months. Those who did not answer these questions were automatically declined. Therefore, among 310 respondents, 22 samples were eliminated due to inappropriate responses of the recall questions and the rest of the survey, i.e., those who failed to specifically type in the product they had and those who answered all questions with one scale number.

3.3.2 Validity and Reliability Assessment

Reliability and factor analysis were conducted to assess the dimensionality of the data. The Cronbach's Alpha for consumption convenience was .836, perceived efficiency was .723, perceived value was .636 and customer satisfaction was .890 (see Table 1), which was above the acceptable level of 0.6 recommended by Nunnally (1978).

	Consumption Convenience	Perceived Efficiency	Perceived Value	Customer Satisfaction
Cronbach' α	0.836	0.723	0.636	0.890

Table 1. Reliability Analysis (Study 1)

Factor analysis was further conducted to verify the correlations between the variables and the factor (see Table 2). One factor regarding each perceived efficiency and perceived value were excluded during the process. The Kaiser–Meyer–Olkin measure of sampling adequacy was 0.710 which is above the recommended threshold of 0.6 (Kaiser, 1974), and the Bartlett's Test of Sphericity has reached its statistical significance ($p < 0.001$), indicating the correlations were significant in the analysis. Variables were divided into four components and it was decided based on the eigenvalue of 1.177, the cumulative variance of 68.88%, and inspection of the scree plot. Each component represents a strong association of having factor loading above the recommended threshold of 0.4 (Guadagnoli and Velicer, 1988).

		Rotated Component Matrix			
		Items			
		Factor 1	Factor 2	Factor 3	Factor 4
Customer	Q4-03	.901	.072	.062	.063

Satisfaction	Q4-02	.899	.056	-.038	.123
	Q4-01	.888	.070	.015	.163
	Q2-03	.034	.837	.111	-.044
Perceived Efficiency	Q2-04	.000	.808	-.021	-.097
	Q2-02	.107	.670	.252	-.025
	Q2-01	.099	.520	.369	-.025
Consumption Convenience	Q1-02	-.028	.140	.910	-.042
	Q1-01	.031	.237	.859	-.104
	Q3-04	.008	-.140	.089	.836
Perceived Value	Q3-02	.181	-.006	-.105	.746
	Q3-03	.115	-.025	-.116	.680

Table 2. Factor Analysis (Study 1)

3.3.3 Hypothesis Testing

Outcome Variable: Perceived Efficiency						
	β	se	t	p	LLCI	ULCI
Consumption Convenience	0.29	0.04	7.44	0.0000	0.21	0.37
Outcome Variable: Perceived Value						
	β	se	t	p	LLCI	ULCI

Consumption Convenience	-0.13	0.06	-2.39	0.02	-0.24	-0.02
Outcome Variable: Customer Satisfaction						
	β	se	t	p	LLCI	ULCI
Constant	2.11	0.60	3.53	0.0005	0.93	3.28
Consumption Convenience	-0.01	0.06	-0.24	0.8090	-0.13	0.10
Perceived Efficiency	0.25	0.08	3.02	0.0028	0.09	0.42
Perceived Value	0.28	0.06	4.81	0.0000	0.16	0.39

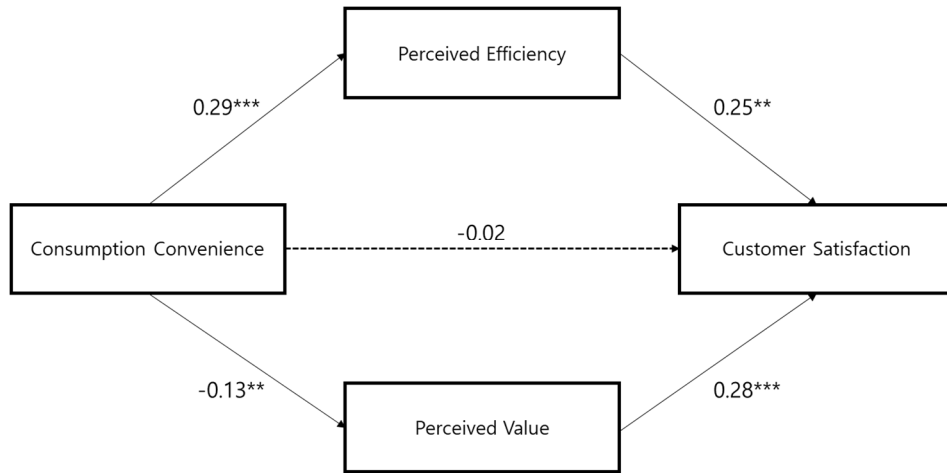
Table 3. Parallel Mediation Effect (Study 1)

To test the parallel mediation effect of perceived efficiency and perceived value, a mediation analysis was conducted by using PROCESS model 4 with bootstrap samples of 5000 (Hayes 2013). The use of bootstrapping is recommended a useful strategy in studies of indirect effects in models with mediation (Shrout and Bolger 2002). All reverse scaled items were reverse coded before analysis.

As Table 3 shows, the effect of consumption convenience on perceived efficiency and perceived value were significant ($\beta = 0.29$, $t = 7.44$, $p < 0.0001$; $\beta = -0.13$, $t = -2.39$, $p < 0.02$), supporting H1a and H2a. Furthermore, the effect of perceived efficiency and perceived value on customer satisfaction were also significant ($\beta = 0.25$, $t = 3.02$,

$p < 0.003$; $\beta = 0.28$, $t = 4.81$, $p < 0.0001$), supporting H1b and H2b. Consumption convenience has positively affected perceived efficiency, however negatively affected perceived value, showing distinct opposite pathway. Perceived efficiency and perceived value have both positively affected customer satisfaction. Furthermore, direct effect of consumption convenience to customer satisfaction was insignificant ($p = 0.81$, [CI]: $[-0.13, 0.10]$), suggesting that perceived efficiency and perceived value mediates the relationship between consumption convenience and customer satisfaction, supporting H1 and H2. Results have proven that unlike other convenience factor, consumption convenience could not only positively affect one's efficiency but also could negatively affect one's value, showing distinct dual pathway between convenience to satisfaction relationship.

Therefore, Study 1 has revealed the relationship between consumption convenience and customer satisfaction and its distinct underlying mechanism of perceived efficiency and perceived value. Fig. 2 provides a visual representation of the whole process.



Note: ** $p < 0.05$, *** $p < 0.001$

Fig 2. Parallel Mediation Framework (Study 1)

4. Study 2

The primary objective of Study 2 is to reinforce the causal relationship shown in Study 1 due to the lack of explanation of recall-based survey and presence of diverse options of respondent answers regarding consumption convenience. Furthermore, Study 2 comprises a boundary condition, need for cognition, in order to examine whether if it could alter the effect of consumption convenience towards perceived efficiency and perceived value. Study 2 was conducted throughout a scenario-based experiment.

4.1 Participants and Procedure

The research was designed as a scenario-based experiment and participants were recruited through Prolific with a reward in return. Initially, 316 respondents were obtained but later eliminated 43 samples through the attention check (refer to *3.3.1 Attention check*). The final sample for the analysis was comprised of 273 respondents. The respondents were mostly in their 20's (45.4%) followed by 30's (26.0%) and 154 respondents (56.4%) were male. Once recruited, the respondents were randomly assigned to a given scenario either purchasing a retort food or purchasing ingredients for cooking a meal (see Appendix A and B). Then they answered a series of questions on constructs of perceived efficiency, perceived value, customer satisfaction, need for cognition and social demographics. Among 273 respondents, 133 respondents (48.7%) were assigned to consumption convenience condition

4.2 Scales

Each construct was measured on a 5-point scale anchored by 'Highly disagree (1) and Highly agree (5)' and 'Very high (1) and Very low (5)' for some constructs of perceived value. Measures were adapted from Study 1 modified to each condition. Perceived value measures for inconvenience condition were "(1) Properly cooked meal worth more than retort food, (2) The quality of properly cooked

meal compared to retort food is, (3) Properly cooked meal worth the price of the ingredients, (4) The value of properly cooked meal compared to retort food is". Need for cognition were measured with shortened version of 18-item Need for Cognition Scale (Cacioppo, Petty and Kao 1984), "(1) I would prefer complex to simple problems, (2) I like to have the responsibility of handling a situation that requires a lot of thinking, (3) I really enjoy a task that involves coming up with new solutions to problems, (4) I prefer my life to be filled with puzzles that I must solve". Finally, customer satisfaction was measured with multiple measures of, "(1) Terrible to Delighted, (2) Not enjoyable to Enjoyable, (3) Dissatisfied to Satisfied", used in Study 1.

4.3 Results

4.3.1 Attention Check

Each respondent's answers were carefully examined to check their validity. Among 316 respondents, 43 samples were eliminated due to inappropriate responses, i.e., those who have shown more than 3 scale differences within each variable and those who answered all questions with one scale number.

4.3.2 Validity and Reliability Assessment

Reliability and factor analysis were also conducted to assess

the dimensionality of the data. The Cronbach's Alpha for perceived efficiency was .901, perceived value was .889, need for cognition was .809 and customer satisfaction was .899 (see Table 4), which was above the reliable level of 0.7 recommended by Nunnally (1978).

	Perceived Efficiency	Perceived Value	Need for Cognition	Customer Satisfaction
Cronbach' α	0.901	0.889	0.809	0.899

Table 4. Reliability Analysis (Study 2)

The factor analysis was also conducted to verify the correlations between the variables and the factor (see Table 5). The Kaiser–Meyer–Olkin measure of sampling adequacy was 0.900, and the Bartlett's Test of Sphericity has reached its statistical significance ($p < 0.001$). Variables were divided into four components, each representing a strong association.

		Rotated Component Matrix			
Items		Factor 1	Factor 2	Factor 3	Factor 4
Perceived Efficiency	Q1-05	0.863	0.037	-0.021	0.037
	Q1-02	0.816	-0.067	0.020	-0.337
	Q1-03	0.799	-0.163	-0.082	-0.353

	Q1-01	0.787	-0.177	-0.068	-0.358
	Q1-04	0.772	-0.126	0.046	-0.077
	Q3-02	-0.031	0.887	0.126	0.192
Customer Satisfaction	Q3-03	-0.117	0.882	0.035	0.215
	Q3-01	-0.104	0.840	0.054	0.257
	Q4-01	-0.040	0.104	0.823	-0.162
	Q4-02	-0.112	0.187	0.814	-0.046
Need for Cognition	Q4-04	-0.001	-0.012	0.778	0.142
	Q4-03	0.114	-0.056	0.759	0.280
	Q2-03	-0.252	0.333	0.129	0.742
	Q2-04	-0.321	0.461	0.053	0.681
Perceived Value	Q2-02	-0.442	0.471	0.036	0.588
	Q2-01	-0.405	0.421	0.034	0.581

Table 5. Factor Analysis (Study 2)

4.3.3 Hypothesis Testing

Outcome Variable: Perceived Efficiency						
	β	se	t	p	LLCI	ULCI
Constant	3.63	0.04	85.64	0.0000	3.56	3.70

Consumption Convenience	1.61	0.08	19.01	0.0000	1.47	1.75
Need for Cognition	0.04	0.06	0.69	0.49	-0.05	0.13
Consumption Convenience x Need for Cognition	-0.19	0.11	-1.69	0.09	-0.37	-0.004
Outcome Variable: Perceived Value						
	β	se	t	p	LLCI	ULCI
Constant	3.43	0.04	96.20	0.0000	3.36	3.50
Consumption Convenience	-1.91	0.07	-26.81	0.0000	-2.06	-1.77
Need for Cognition	0.06	0.05	1.20	0.23	-0.04	0.15
Consumption Convenience x Need for Cognition	-0.20	0.09	-2.13	0.03	-0.38	-0.02
Outcome Variable: Customer Satisfaction						
	β	se	t	p	LLCI	ULCI
Constant	0.84	0.31	2.69	0.0077	0.22	1.46
Consumption Convenience	-0.31	0.18	-1.70	0.0911	-0.66	0.05
Perceived Efficiency	0.25	0.06	4.35	0.0000	0.14	0.36
Perceived Value	0.56	0.07	8.26	0.0000	0.43	0.70

Table 6. Moderated Mediation Effect (Study 2)

To test the moderation by need for cognition and mediation by perceived efficiency and perceived value, a moderated mediation analysis proposed by Preacher, Rucker and Hayes (2007) was conducted by using PROCESS model 7 with bootstrap samples of 5000 (Hayes, 2013). The consumption convenience variable was dummy-coded into "convenience condition" (=1), "inconvenience condition" (=0) and all reverse scaled items were reverse coded before analysis. As Table 6 shows, the effect of consumption convenience on perceived efficiency and perceived value were significant ($\beta = 1.61$, $t = 19.01$, $p < 0.001$; $\beta = -1.91$, $t = -26.81$, $p < 0.001$). In addition, the effect of perceived efficiency and perceived value on customer satisfaction were also significant ($\beta = 0.25$, $t = 4.35$, $p < 0.001$; $\beta = 0.56$, $t = 8.26$, $p < 0.001$).

Results of Study 2 shows stronger relationship between variables than previous study. Consumption convenience has positively affected perceived efficiency, supporting H1a, however negatively affected perceived value, supporting H2a. Perceived efficiency and perceived value have also positively affected customer satisfaction, supporting H1b and H2b. Direct effect of consumption convenience to customer satisfaction was also insignificant ($p = 0.09$, [CI]: $[-0.66, 0.05]$), suggesting perceived efficiency and perceived value mediates the relationship between consumption convenience and customer satisfaction, supporting H1 and H2. Results have

further proven that consumption convenience could negatively affect one's value while positively affect one's efficiency, showing distinct dual pathway between convenience to satisfaction relationship.

Furthermore, results have shown significant interaction effect of consumption convenience and need for cognition on perceived efficiency and perceived value ($\beta = -0.19$ $t = -1.69$, $p < 0.1$; $\beta = -0.20$, $t = -2.13$, $p < 0.03$), supporting H3. Interaction effect has both negatively affected the relationship between consumption convenience to perceived efficiency and perceived value, suggesting that higher the need for cognition, negatively affects perceived efficiency and perceived value, supporting H3a and H3b. In other words, individuals with high need for cognition perceive lower efficiency and value from consumption convenience product while those with low need for cognition perceive comparatively higher efficiency and value (See Fig 3a and 3b).

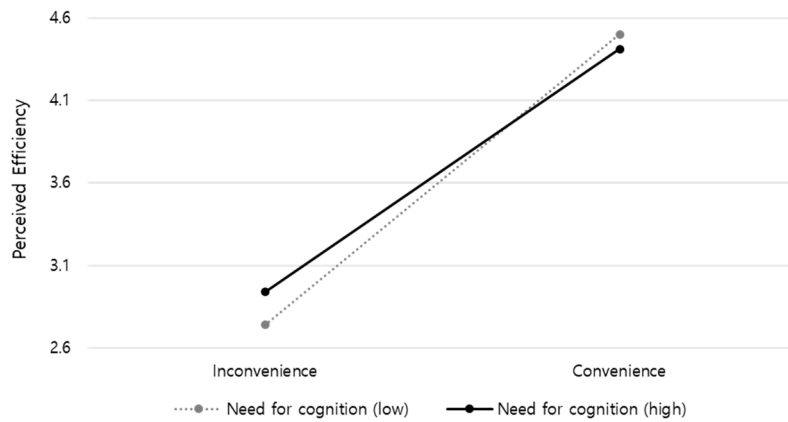


Fig 3a. Effect of Consumption Convenience and Need for Cognition on Perceived Efficiency (Study 2)

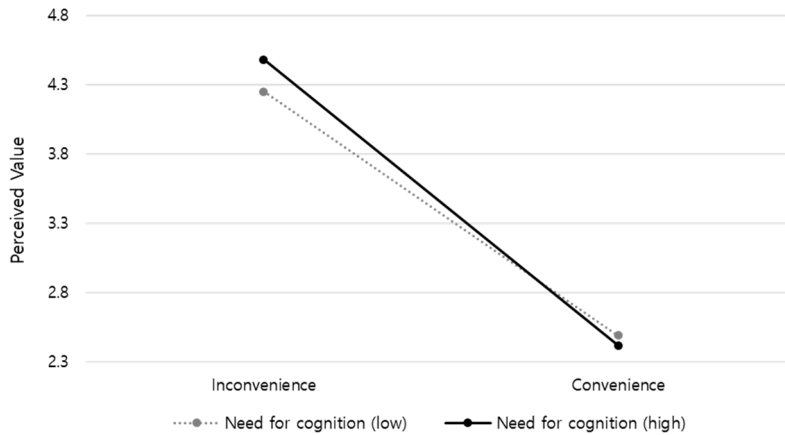
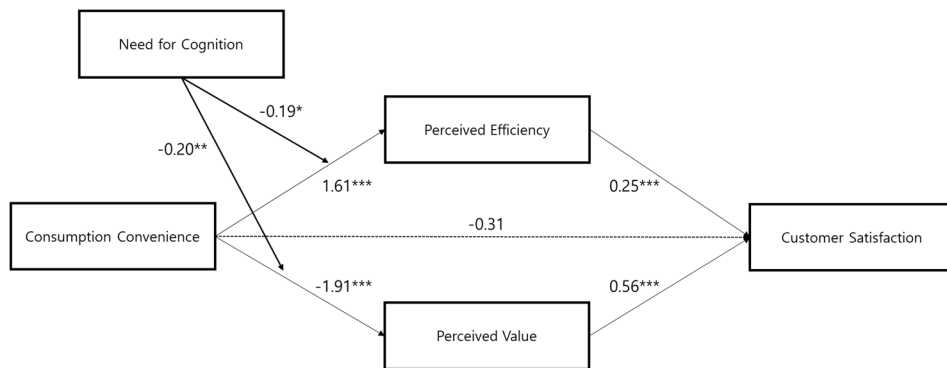


Fig 3b. Effect of Consumption Convenience and Need for Cognition on Perceived Value (Study 2)

Therefore, Study 2 reinforces the results discovered in Study 1 where the relationship between consumption convenience and customer satisfaction holds distinct underlying mechanism of perceived efficiency and perceived value, which are oppositely

affected, positively towards perceived efficiency and negatively towards perceived value. Furthermore, Study 2 has revealed a boundary condition of need for cognition that individuals with high need for cognition both negatively affect perceived efficiency and value. Fig. 4 provides a visual representation of the whole process.



Note: $*p < 0.1$, $**p < 0.05$, $***p < 0.001$

Fig 4. Final Framework (Study 2)

5. Discussion

This paper yields important theoretical contributions to marketing researches. The first contribution lies in incorporating consumption convenience foods into the scope of marketing research. Despite the frequent usage of the term convenience, little attention has been paid in discussion of convenience in marketing literatures, especially in product domain (Brown 1989).

Although some literatures have discussed with studies of consumption convenience foods such as the relationship with personal shopping behaviors towards convenient foods in accordance with working status (Strober and Weinberg 1980; Reilly 1982) and socioeconomic differences (Anderson 1972), no other literatures have discussed the underlying mechanisms of consumption convenience foods towards customer evaluations, to the best of the author's knowledge. This is worthy of consideration that convenience is often linked with efficiency and its utility of saving time and effort, which leads to positive evaluations from users. However, this research has unveiled that consumption convenience products not only increases customer perceived efficiency but also can negatively affect their perceived value, revealing the downside of convenience in food product domain. Another contribution lies in the notion of need for cognition that other studies have discussed with its effect on advertisements (Venkatraman, et al. 1990) and moods (Batra and Stayman 1990), however this research has implemented its role in product evaluation, demonstrating that personal differences in cognitive acceptance level takes part in the process.

Along with theoretical implications, this research suggests actionable industrial implications for consumption convenience products in pursuit of its original objective. As witnessed in study 2, people scoring high in need for cognition perceived less efficiency

and value from retort foods. In other words, those people are less likely to purchase retort foods when given with options of cooking genuine meal. On the other hand, those scoring low in need for cognition are more likely to purchase retort foods in accordance with their desire to process a task with low effort. Retort food technology, however, is continuously advancing that more types of food are being served and advanced preservation and preparing technology are being developed to meet the equivalent taste and quality of genuinely cooked meal. Contents are being divided into multiple packages to separate the sauce, main, etc., and multiple steps are being required to prepare the product. However, these improvements might harm peoples' objective of having retort foods which is conveniently preparing a meal. This does not necessarily mean to downgrade the retort food technology. Nevertheless, industries should manage the balance between technology improvements and peoples' need towards retort foods. Improvements of retort food technology could offset the negative effect on value due to increase in quality and taste. However, increased complexity of preparation process and price could be perceived no longer efficient.

Furthermore, the conditions in this paper were comprised with products with clear quality difference (retort food vs. home-made meal). However, recommendations of conditions for future studies could be conducted with products of the same quality but with

different types of packaging, preparation method. It can be speculated that people could vary in perceiving the quality and value of a product by the packaging and preparation method. For example, one of the famous Korean oriental medicine, red ginseng extract, is known to be very high in its quality. Due to its high popularity and various usages, industries have developed various packaging and preparation techniques. Some products are comprised with condensed ginseng liquid which consumers are required to pour it into hot water and dissolve it to consume, while some products are individually packaged into a form of a stick which consumers are only required to tear each package and take a sip to consume. The quality of both products is the same and the only difference is the packaging method where the latter is designed for higher convenience. However, people generally perceived the quality of the latter product comparatively lower than the former product. This could be due to the simplicity of preparation or the packaging method which could be considered less sincere. Therefore, this leaves us a new field to explore, which consumers' psychological assessments towards a product value could be altered due to the form of a product packaging method despite having equal quality.

Finally, I would like to acknowledge some methodological limitations of this research. First, although verified with multiple studies of recall and scenario-based experiment, field experiment

should be conducted for future researches to strengthen the causal relationship between variables since its assessments are based on the product consumption experience. Distortion of memory and lack of weight in scenario may have been involved in the studies of this paper. Second, participant answers from online experiment using Prolific were limited to those of appropriate responses. Many respondents who failed in recall and attention check were excluded, although being necessary procedure for precise analysis. Third, it is questionable whether the definition of retort food provided to participants encompasses the entire type of consumption convenient products. It may well be that author's subjective judgements and participant's misunderstanding was involved in the process. Fourth, a practical limitation with retort food is that consumers could have retort food along with genuine meal as a side dish rather than solely having it as a meal. It is possible that such consumers are likely to have distorted evaluations towards retort foods.

Despite such limitations, this research has discovered a distinct effect of convenience in food category which provided a new field to explore and practical implications for retort food industries. I hope findings and suggestions from this research encourage further studies on this subject and contribute to retort food industries.

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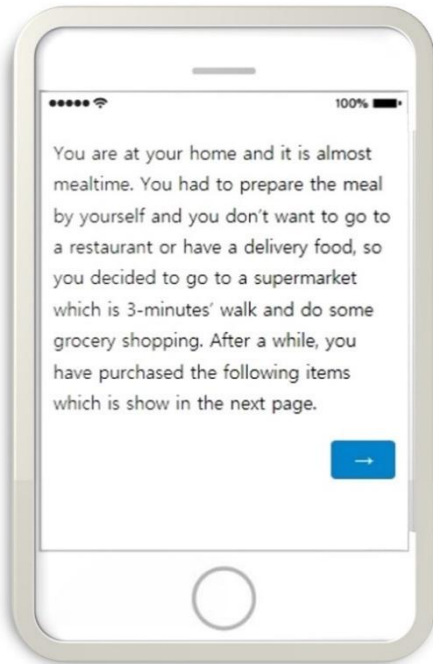
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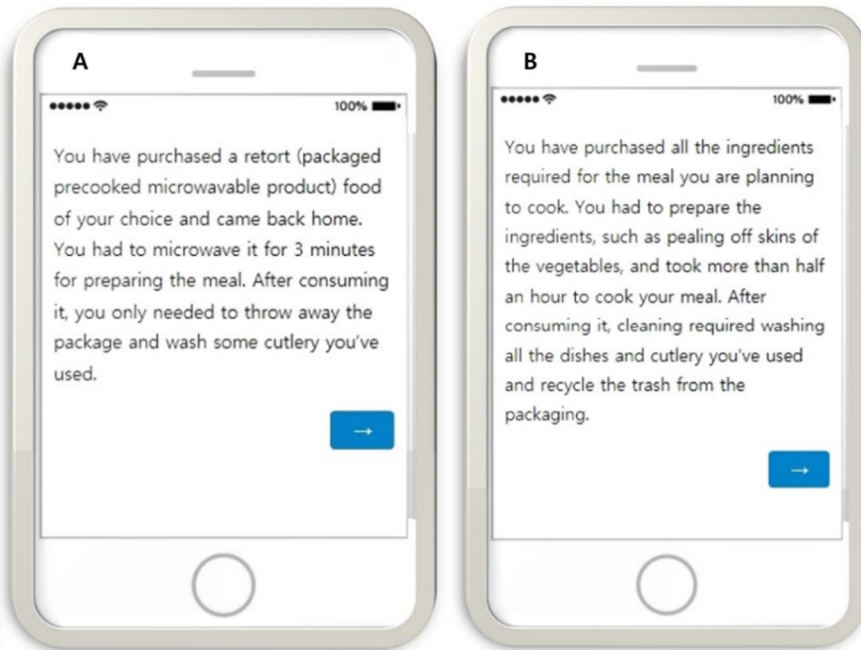
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Appendix A. Scenario Intro



Appendix B. Random Assignment A: Convenience, B: Inconvenience



국문 초록

편리성이란 시간과 노력의 감축에 있어서 인류의 번영과 기술 발전의 커다란 축을 이루는 중요한 요소 중 하나이다. 이러한 이유로 편리성은 수많은 분야에서 그 유용성에 대해 활발히 연구가 이루어졌지만 심리적 측면에서 편리성의 부정적 효과에 대한 실증 연구는 거의 이루어지지 않았다. 이를 위해, 본고는 식품 소비 편리성의 소비자 만족도에 미치는 양날의 영향에 주목한다.

구체적으로 본 연구는 식품 소비 측면에서의 편리성이 그 유용성에 근거한 인지된 효율과의 긍정적인 상관관계 이외에 심리적인 측면에 근거한 인지된 가치와는 부정적인 상관관계를 가질 수 있는 것을 보여준다. 또한, 본 연구에서는 이들 상관관계의 이해에 있어서 인지 욕구의 조절효과도 함께 다루어 진다.

두 실험의 분석 자료는 (N = 288 과 273) 제안된 가설과 일치하는 결과를 나타낸다. 첫 번째 실험은 리콜 기반 설문조사로 이루어졌으며, 참가자들이 가장 최근 간편제품, 즉 레토르트 식품을 섭취한 경험을 상기하도록 한다. 두 번째 실험은 시나리오 기반 실험으로, 참가자들은 각각 레토르트 식품을 섭취하거나 직접 조리하는 조건으로 배정되며, 끝으로 인지 욕구를 측정하게 된다. 실험 결과는 식품 소비 편리성과 인지된 효율, 식품 소비 편리성과 인지된 가치의 상반된 상관관계를 나타냈다.

본고는 연구에서 대체로 배제되었던 편리성의 부정적 측면에 대해 규명함과 동시에 이들 상관계에 있어서 인지 욕구의 조절효과를 밝혀냈다.

주요어 : 제품 섭취 편리성, 인지된 효율, 인지된 가치, 인지 욕구, 소비자 만족도

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