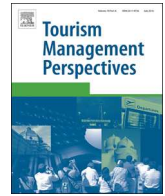




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## The influence of the compromise and travel temporal construal heuristics on a purchase decision

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### ABSTRACT

This study empirically investigated the effects of temporal construal upon the compromise effect; the extent to which the importance of price and quality attributes to selecting a compromised option changed over time; and the malleability of the influence of the temporal construal heuristic by changing the time parameters. Three hundred and ninety-four questionnaires were used for further data analysis. The study's results suggested that the compromise effect was present in the tourism context, but with weakened effectiveness when the time frame in which the purchase can be used was moved back. The importance of price and quality was different between those groups who selected each of three options. The importance of price level in selecting a middle option was not different in terms of temporal construal, but the quality level was a more important consideration in selecting a middle option for future use than for use today.

### 1. Introduction

Traditional economics assumes that price constitutes the economic cost of making a purchase, hence the negative relationship between price level and purchase probability. However, it has long been recognized that reactions to prices consistently contradict this assumption (Kahneman, 2011). Accordingly, economists have increasingly focused on how people *actually* respond when presented with pricing options, rather than how they *ought* to respond if they acted rationally. This emergent field of behavioral economics recognizes that context is central to how prices are interpreted (Dickson & Sawyer, 1986). Patterns of cognitive responses to prices have been identified in economics and marketing literature. Many of which are based on heuristics. These are simple procedures (“rules of thumb”) that offer shortcuts, so that users can better cope with their limited processing capacity and simplify the cognitive process of decision-making. However, such procedures are imperfect and using heuristics sometimes leads to “wrong” decisions being made. Fortunately, the error is frequently systematic and so, is predictable (Kahneman, 2011).

The role of heuristics in retailing has been explored quite extensively, but has received very little attention in the tourism and leisure field. These services, such as theater, hotel room services, music concerts and sports events, have characteristics that are distinctively different from general retail items. Their outcomes are more uncertain

than tangible retail purchases. Further, if such service fails to meet expectations then the cost is unlikely to be recoverable, which makes it more likely that reliance on individuals' established “safe” price heuristics will be influential in decisions (Woodside & MacDonald, 1994). Tourism purchases are generally more expensive (Baumgartner & Steiner, 2007), so individuals may be less likely to be price sensitive because the Weber-Fechner law states that price differences are typically viewed in proportional and relative terms rather than absolute terms (Monroe & Lee, 1999). Moreover, motives for purchasing tourism services are predominantly hedonic, suggesting that consumers' price sensitivities to tourism services are likely to be low (Wakefield & Inman, 2003). They have relatively low-price transparency (Li, Granados, & Netessine, 2014) and engage in dynamic pricing (Mantin & Gillen, 2011; Granados, Gupta, & Kauffman, 2012), characteristics which mean that purchasers of tourism services are less likely to have a clear reference price for such services. As a result, there may be an increased tendency to select a middle-priced option because it is perceived to be “safe”; a low-priced option may indicate a low-quality service; while a high-priced choice could be perceived as a “rip-off” (Prelec, Wernerfelt, & Zettelmeyer, 1997). This tendency to select middle-priced options rather than extreme options is termed the “compromise effect” (Prelec et al., 1997; Simonson, 1989; Simonson & Tversky, 1992).

This study that examines the combined context effects of various price options and different temporal construal levels, extends the

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existing studies. Indeed, the influence of the compromise effect has been demonstrated in some tourism and leisure service contexts (Atadil, Sirakaya-Turk, Meng, & Decrop, 2018; Crompton & Jeong, 2016; Kim, Kim, Lee, Kim, & Hyde, 2019), but previous studies have been limited to specific situations, tasks, and time points, rather than considering comprehensive circumstances and price heuristics. Since the nature of tourism purchase decisions closely relates to different time constraints (i.e. purchasing a service to use it in the near- or distant-future), research on the influences of temporal construal levels on the compromise effect should be necessary and critical; this study explores whether the compromise heuristic is strengthened or weakened by temporal construal, that is, if its effectiveness changes according to the time when the service is to be used. These issues are very important to establishing effective price strategies and so, maximizing profits, but to the best of our knowledge such issues have hardly been empirically addressed in the tourism service context.

## 2. Literature review and hypotheses

### 2.1. The compromise effect

The compromise effect is a heuristic by which middle-priced options are selected rather than the extreme options (Prelec et al., 1997; Simonson, 1989; Simonson & Tversky, 1992). Two explanations for the effectiveness of this approach have been postulated. The first is “extremeness aversion” (Simonson, 1989; Simonson & Tversky, 1992). If two price options are available, then when mutually compared their advantages and disadvantages may be perceived as being relatively large. If a middle-price option is available, then it will have relatively small advantages and disadvantages relative to each extreme. Thus, it becomes the compromise choice and the risk-averse action. This effect is “common and robust, representing the rule rather than the exception in choice behavior” (Simonson & Tversky, 1992, p.293).

An alternative explanation of compromise selection tendency is the reduction of complexity in decision-making (Kim & Kim, 2016). As people have limited capability to engage in cognitive thinking, they tend to use heuristics to reduce the load (Kahneman, 2011). For example, the compromise effect is more prominent under a choice task than a rejection task because the latter tends to involve a deliberative information process strategy (Kim et al., 2019; Sokolova & Krishna, 2016). As cognitive complexity increases, impromptu decisions are more likely to use heuristics because they simplify the process (Kahneman, 2011; Shah & Oppenheimer, 2008).

As the compromise effect has been well-demonstrated in numerous studies, it was anticipated that it would also be found in the tourism context.

**H1.** When presented with multiple price points, there will be a tendency to choose a middle-priced option when purchasing a tourism service rather than an extreme-priced option.

### 2.2. Temporal construal

Temporal construal is a generalized heuristic that evolves as a result of differences in what people typically know and do about near- and distant-future events. In their daily lives, individuals regularly make decisions about events that will take place in the near- or distant-future. For example, they may decide to go to a ball game, special event, or theater either a few months or a few hours in advance. Construal level theory proposes that the differences in time when a decision is being contemplated lead to differences in the value of outcomes. The theory states that temporal distance changes peoples' responses to future events by changing how they mentally represent and construe those events (Liberman & Trope, 1998; Trope & Liberman, 2003), and explains why individuals' preferences and consequent choices are inconsistent at different time points (Kim, Kim, Kim, & Magnini, 2016;

Liberman, Trope, & Wakslak, 2007; Trope & Liberman, 2010).

The central construct of construal level theory is psychological distance, which is defined as “a subjective experience that something is close or far away from the self, here, and now” (Trope & Liberman, 2010, p. 440). The parameters of temporal construal are delay and urgency (Bar-Anan, Liberman, & Trope, 2006). Delay occurs when a decision's outcome will not take place until long after the decision is made, as in the case when a purchase is made months in advance, while the urgency parameter refers to immediate use of a service.

Numerous studies (Dhar & Kim, 2007; Trope, Liberman, & Wakslak, 2007; Yan & Sengupta, 2011) have reported that when an event is considered in the psychologically distant future (termed “high-level construal”), the tendency is to focus on the big picture-general representation that extracts the essential features of its core benefits/quality. Its construal is likely to be abstract, global, decontextualized, and superordinate. In contrast, for an event attended in the psychologically near-future (termed “low-level construal”), the focus is likely to be on concrete details and influenced by situational context (Trope & Liberman, 2003).

Since temporal construal levels influence viewpoints on the attributes of purchase, they are likely to have an impact on the effectiveness of the compromise effect that is a selection heuristic related to a value calculation process of price and quality (Kim & Kim, 2016). Therefore, we hypothesized that compromise selection tendency will differ by when the purchase is being made.

**H2.** The effectiveness of the compromise effect will differ by temporal construal level.

### 2.3. The relationship between perceived price and quality

In most purchase situations, there is information asymmetry between suppliers and consumers that results in the complexity of consumer's decision-making process (Thaler, 1985). Furthermore, services have a relatively less salient cue about quality and price fairness compared with goods. The nature of a service, such as ill-defined output, lack of standardization, and difficulty in quality control, makes its purchase decision a high-risk task. This entails that available information sources are critical in assessing value for money, and price level is one cue observable (Han, Meng, Chua, Ryu, & Kim, 2019; Han, Shim, Lee, & Kim, 2019; Han, Yu, & Kim, 2018; Jeong, Crompton, & Hyun, 2019). Indeed, while Volckner and Hofmann identified that “Consumers use price as an important indicator of quality” (Völckner & Hofmann, 2007, p. 194), their argument also implies that consumer's choice lies between good price and good quality. In other words, even though consumers want to purchase good quality (high quality) at a good price (low price), the perceived relationship between quality and price is contradictory in their mind, which thereby increases selection difficulty. This difficulty between price and quality is likely to lead to choosing a compromise option at middle levels of price and quality, as an alternative that decreases purchaser's cognitive load. Indeed, the compromise effect is recognized as an optimized trade-off between desirability (quality) and feasibility (price).

According to the construal level theory, desirability refers to the valence of an action's outcome, whereas feasibility reflects the sacrifice in money, time and effort needed to obtain the outcome: “Desirability reflects the superordinate ‘why’ aspects of an action, whereas feasibility reflects the subordinate ‘how’ aspects” (Liberman & Trope, 1998, p.7). Thus, Dhar and Kim (2007) concluded, “High-level construal corresponds with desirability, while low level construal corresponds with feasibility” (p.97). For example, when a purchase is made several months in advance of an event, the focus is likely to be on the general, rather abstract, perception of its quality and benefits. In contrast, when the purchase outcome is immediate, concern is likely to shift to the specific price sacrifice being made. Castano, Sujan, Kacker, and Sujan (2008) demonstrated that from the distant perspective, consumers were

predominantly concerned about the performance of a product, whereas from the proximate perspective the costs associated with adopting a product become more salient. Similar findings have been reported by others (Bettman, Luce, & Payne, 1998; Bornemann & Homburg, 2011; Borovoi, Liberman, & Trope, 2010; Fujita, 2008; Lee & Zhao, 2014; Trope & Liberman, 2003; Yan & Sengupta, 2011).

The construal level theory suggests the extent to which a focus on quality and price differs by temporal construal. Thus, we anticipated that the different time levels will influence the extent of the importance of price and quality in selecting the compromise option. For example, when the purchase is being made for immediate use rather than for use four months hence, the compromise effect will mainly occur due to the price level. Whereas quality levels will be an important criterion when selecting the middle-priced option when the purchase is being made for use four months later rather than immediately.

**H3.** The importance of quality level when selecting the compromise option will differ by temporal construal levels.

**H4.** The importance of price level when selecting the compromise option will differ by temporal construal levels.

### 3. Methods

#### 3.1. Research design for different temporal construal levels

The study was undertaken to evaluate the influences of the compromise effect and temporal construal on the purchase of a tourism service. In this study, a theater ticket was suggested as a research item that represents services to purchase while traveling. For example, the scenarios for the study requested that participants assume they were traveling and purchasing a theater ticket for a hit show that appealed to them called “Stars of the Theater.” Indeed, going to the theater is recommended as one of the best things to do during a trip by numerous travel websites, such as TripAdvisor, Timeout, and U.S News Travel, in various travel destination contexts. For example, performances such as The Phantom of the Opera in New York City and the O-show by Cirque du Soleil in Las Vegas are suggested as primary activities during a trip. The CNN travel (2018) reported that people travel to see blockbuster theater, and seeing a musical or play is “a growing trend, partly because the Internet makes it easier to buy tickets, and partly because theater and travel organizations are encouraging it” (CNN travel, 2018).

A focus of the study was the influence of temporal construal. Thus, the scenarios differed with regards to the time at which participants would travel and go to the show - either today or four months hence. To ensure that respondents understood the parameters of the scenario and were cognitively engaged in their responses, an open-ended question immediately following the scenario required them to rewrite the key variables, such as “today” or “four months hence”, and then select the one from three available price options. For example, the directions for the questionnaire for today was suggested as follows (Appendix A):

*Please assume that the famous “Stars of the Theatre” show is performing at your travel destination, and you’d like to see it. Imagine you are traveling alone. The show is on TODAY at your travel destination, so you’re checking ticket options. In order to remember the time to purchase ticket and watch the show, please rewrite “today” here (). Please circle which of the below seats you’d prefer, if there are only three seat options available.*

Similarly, the questionnaire for “four months hence” asked participants to rewrite the key variable, and then select from three available price options.

It was assumed that initial evaluations made in the four months hence or immediate future decisions were malleable by suggesting updated different time levels. For example, when the time frame in which the purchase of a theater ticket can be used is moved back, then

the compromise effect will be less prominent in the purchase decision than previously. Thus, a follow-up study was conducted that changed the time frame in the scenario given to respondents *after* they had made their initial purchase decision, and then the influence of temporal construal levels on the compromise effect was reinvestigated. For example, the directions for the questionnaire for today proposed a new time frame as follows:

*You selected a ticket for use today, but your traveling schedule is being pushed back FOUR MONTHS hence. Accordingly, the date for which the ticket can be used is also moved back, and you can make a selection again. Please rewrite “four months” here (). Please circle which of the below seats you’d prefer, if there are only three seat options available.*

For the manipulation check, participants were asked how far four months feel from today, with answers given on a 5-point Likert scale ranging from “closer” (1), “similar” (2), “a little far” (3), “far” (4) to “very far” (5). No-one chose “similar” nor “closer”, while 4 months was considered “a little far” (15%), “far” (63%), and “very far” (22%). This result confirmed that four months can be used as a distant temporal construal to compare with today as a near temporal construal.

#### 3.2. Research design for compromise selections among different price and quality options

In addition to influences of temporal level, another focus of this study is the compromise effect that is the selection tendency of a middle priced option. This study looked for the existence of the compromise effect, but there was concern that responses to the design adopted to test the compromise effect may reflect *absolute* price levels. Following methods in previous studies (Simonson, 1989; Simonson & Tversky, 1992), two three-option price/quality sets were created. In each set, one of the three options was designated as a compromise option for some respondents and as an extreme option for others. For example, using an alphabetical A, B, C, D notation, option B was in the compromise position in the first set (A, B, C) and in the extreme position in the second set (B, C, D). The compromise effect can be calculated by comparing the option share under the middle position (i.e. option B's share divided by options B&C's share under the ABC condition), and the option share under the extreme position (i.e. option B's share divided by options B&C's share under the BCD condition).

In this study, the price and quality options in the first set were presented with ₩50,000, ₩90,000 and ₩130,000 (\$45, \$82, and \$120, respectively given the approximate exchange rate of ₩1100 to USD 1) for general, upper, and lower seats, respectively (Set 1: A, B, and C). The price and quality options in the second set were presented with \$90, \$130, and \$170 (\$81, \$120, and \$150, respectively) for upper, lower, and premium seats, respectively (Set 2: B, C, and D). To confirm the levels of price and quality options, participants were presented with a picture of the theater's seating layout showing the three differently-priced seat locations (Appendix A).

In addition, the questions were designed to address preferred options using the scales as a different measurement approach. Rather than requesting respondents to select from price/quality options, they were asked the extent of the importance of a purchase's price and quality levels. Four questions were proposed to measure the relative influence of price and quality in their purchase decision when the theater ticket was purchased for use today or in four months' time (i.e. importance of quality for today's use, price for today's use, quality for use four months hence, and price for use four months hence), and participants were requested to answer on a 7-point Likert-type scale.

The questionnaires were critiqued by an expert panel of five Korean professors whose primary research focus was consumer behavior, subsequent modifications were made, and then they unanimously agreed that the question items and scales were appropriate.

**Table 1**  
Compromise effect of different temporal construal levels.

	Choice share under ABC condition			Choice share under BCD condition			Compromise effect (ABC vs. BCD)
	A	B	C	B	C	D	
	General	Upper	Lower	Upper	Lower	Premium	
	\$50	\$90	\$130	\$90	\$130	\$170	
Today	9.38% (9)	46.88% (45)	43.75% (42)	19.81% (21)	47.17% (50)	33.02% (35)	
B/(B + C)		51.72%		29.58%			22.15%**
4 months	8.60% (8)	47.31% (44)	44.09% (41)	7.45% (7)	58.51% (55)	34.04% (32)	
B/(B + C)		51.76%		11.29%			40.47%***

\*p < 0.05., \*\*p < 0.01, \*\*\*p < 0.001

3.3. Data collection

This study used convenience samples of college students who studied at four major universities in Korea. A student sample is relatively homogeneous with regard to such variables as age, education level, income, social status, and geographical location – a likeness that serves to enhance internal validity in explaining causes and effects (Han, Kim, & Kiatkawsin, 2017; Lucas, 2003; Sears, 1986). Furthermore, these variables are reported to influence the price sensitivity that may be a critical extraneous variation that influences the study result, hence such variables need to be controlled (Jeong et al., 2019; Kim & Kim, 2016; Peterson, 2011). In the context of tourism and leisure services, it was reported that socioeconomic and demographic variables influence the purchase decision-making process (Kim, Cheng, & O’Leary, 2007). Following the sampling method used in previous studies of consumer behavior, a student sample was used to compare among sub-sample groups and reach conclusions.

In this study, participants were randomly assigned to one of the four different questionnaire scenarios (2 temporal levels x 2 sets of available options), and their responses were compared in a between-subject design. At each institution, in order to ensure validity an approximately equal number of each of the four variations of the scenario questionnaires were randomly distributed to students during a class period by a professor. Only those questionnaires were used in the analyses in which the rewrites (i.e. today or four months) were accurate, and all questions were answered. Out of the 410 questionnaires distributed, 349 questionnaires were usable. As a further check for potential differences among those completing each of the four variations of the scenario questionnaires, participants were asked to report how much they had spent on tourism and leisure activities in the last year; that is because price decisions are likely to be influenced by discretionary income. The averages for each scenario were ₩1,893,000, ₩1,820,000, ₩1,655,000, and ₩1,436,000 (in USD the spending range was from \$1721 to \$ 1305). The results of ANOVA tests indicated there was no significant difference in discretionary income among the groups of each scenario (F = 0.71, p-value = 0.55), which reinforced confidence in the homogeneity of the sample.

3.4. Data analysis

In the study, one of the four scenario questions (2 temporal levels x 2 sets of available options) was posed in the questionnaire, and participants were requested to make a decision to purchase from the three different price options with different quality in response to each question.

The compromise effect was identified by using a Chi-square test to compare the option shares under the middle position and under the extreme position. One-way ANOVA was also implemented to identify the mean differences in the importance of quality level to choosing among the groups who select each of the three options. In the same way, the importance of price level to selecting was compared among the

three groups using an ANOVA. A series of t-tests was also employed to determine whether the importance of price/quality level to selecting an option differed between two temporal construal levels. Two-way ANOVA tests were conducted to identify the interaction effects between selections and temporal construal levels on the importance of quality/price level.

4. Results

4.1. Results of Chi-square tests to identify the compromise effect

This study was undertaken to evaluate the compromise effect on the purchase of a tourism service, and explored the influence of temporal construal thereon. We first checked whether there were differences in the distribution of the option shares between ABC and BCD conditions. As expected, there were no differences in option shares between set 1 and set 2 for today’s use ( $\chi^2 [2] = 5.213, p = 0.072$ , Cramer’s V = 0.0155) and for use four months hence ( $\chi^2 [2] = 2.435, p = 0.300$ , Cramer’s V = 0.108). This result verifies that the given responses did not result from absolute price/quality levels, but rather relative price/quality levels. Further, the study explored whether the compromise effect is present. When the purchase is being made for today’s use, options B’s share under the ABC is 51.72% while its share under the BCD is 29.58%, so the compromise effect is 22.15% ( $\chi^2 [1] = 7.884, p = 0.006$ ) (Table 1). In a similar way, when the purchase is being made for use four months hence, options B’s share under the ABC is 51.76% while its share under the BCD is 11.29%, so the compromise effect is 40.47% ( $\chi^2 [1] = 25.921, p < 0.000$ ).

A follow-up test was conducted to assess whether a change in time frame influences the compromise effect. After the participants had selected the price options, they were subsequently told that those who responded to the four months hence scenario were informed that they could use it immediately, while those who received the purchase for immediate use scenarios could now use their ticket four months hence, and then they were asked to select the price option again. As shown in Table 2, when the event date scheduled four months hence could be moved forward, options B’s share under the ABC is 56.96% while its share under the BCD is 27.54%, so the compromise effect is 29.42% ( $\chi^2 [1] = 12.994, p < 0.000$ ). However, when the event date was postponed, options B’s share under the ABC is 40.90% while its share under the BCD is 25.42%. Therefore, the compromise effect is not statistically significant ( $\chi^2 [1] = 3.738, p = 0.077$ ). Interestingly, the compromise option was no longer the most frequently selected when the time horizon was moved back. In both cases of ABC and BCD, the high-priced option (54.17% for ABC, 44.34% for BCD) was selected more than the middle option (37.50% for ABC, 41.51% for BCD). In conclusion, Hypothesis 1 was supported while Hypothesis 2 was partially confirmed.

4.2. Results of t-test and one-way ANOVA

The reason to select the compromise option can be different by time



**Table 2**  
Compromise effects when the time frame at which the purchase can be used was changed.

Option	Choice share under ABC condition			Choice share under BCD condition			Compromise effect (ABC vs. BCD)
	A	B	C	B	C	D	
	General	Upper	Lower	Upper	Lower	Premium	
	\$50	\$90	\$130	\$90	\$130	\$170	
Earlier B/(B + C)	15.05% (14)	48.39% (45)	36.56% (34)	20.21% (19)	53.19% (50)	26.60% (25)	29.42%***
Later B/(B + C)	8.33% (8)	37.50% (36)	54.17% (52)	14.15% (15)	41.51% (44)	44.34% (47)	15.49%

\*p < 0.05., \*\*p < 0.01, \*\*\*p < 0.001

**Table 3**  
Differences in the importance of quality and price levels by selection types and temporal construal levels.

		Selection			F-value (p-value)
		Low price with high quality	Middle price with middle quality	High price with low quality	
Quality	Today	4.33	4.73	5.29	5.152 (0.007**)
	4 months	4.67	5.28	5.58	3.453 (0.034*)
	Diff	0.333	0.557	0.290	
	t-value (p-value)	0.805 (0.428)	2.797 (0.006)**	1.214 (0.223)	
Price	Today	4.43	3.62	3.05	7.532 (0.001**)
	4 months	4.47	3.33	2.97	8.503 (0.000***)
	Diff	0.033	0.288	0.079	
	t-value (p-value)	0.078 (0.938)	1.361 (0.175)	0.315 (0.753)	

\*p < 0.05., \*\*p < 0.01, \*\*\*p < 0.001

levels, since the temporal construal changes the focus of service attributes. For example, the quality expectation of a purchase can be much higher when the compromise option is selected for future use rather than for immediate use.

As shown in Table 3, one-way ANOVA was conducted to check whether the importance of quality differed among the three group respondents who select each option. As expected, the mean differences of quality were significantly different among the groups in both cases (F-value = 5.512, p-value = 0.007 for today's use; F-value = 3.435, p-value = 0.034 for use four months hence). *t*-tests were then conducted to compare the mean difference in the importance of quality between two time levels. There were no significant differences in quality importance to the selection of a low-price option (t-value = 0.805, p-value=0.428) and of a high-price option (t-value = 1.214, p-value=0.223) between two temporal levels. However, for those respondents who selected the middle option, the importance of quality to selection was rated higher for future use than for today's use (t-value = 2.797, p-value=0.006). Therefore, Hypothesis 3 was supported.

In a similar way, the results of one-way ANOVA confirmed that the importance of price to selection differed among the selection groups in both cases (F-value = 7.532, p-value = 0.001 for today's use; F-value = 8.503, p-value < 0.000 for use four months hence). For example, the group selecting the low priced-option for today's use rated the importance of price higher than the other groups (4.43 vs. 3.62 vs. 3.05). Further, the importance of price to selection was compared between two time levels, but without significant differences. Therefore, Hypothesis 4 was rejected.

**4.3. Results of two-way ANOVA to identify the effects of quality level and temporal construal**

The results of the *t*-tests indicated that the quality attribute was a more important factor to the compromise selection when a ticket was for use four months hence than when it was for use today (Table 3).

Therefore, two-way ANOVA tests were conducted to determine how quality importance was influenced by respondents' groups of different selections and temporal construal levels. The results of the two-way ANOVA revealed that the selections (F-value = 20.161, p-value = 0.047) and time levels (F-value = 8.422, p-value = 0.022) had the main effects on the importance of quality levels significantly, but their interaction term was not significant (Table 4). The findings indicate that time level did not act as a moderator for the effect of selection on quality perception.

In terms of price importance, the ANOVA tests indicated a significant main effect on quality importance between three selection groups (F-value = 48.681, p-value = 0.020), implying that selection differences are significantly related to price levels. However, there was no main effect of temporal construal and its interaction effect on price.

**5. Discussion**

This study examined whether the compromise effect is present, and investigated the impact of temporal construal thereon. Especially, the malleability of the influence of the temporal construal heuristic was used not only by suggesting the different time level in which the

**Table 4**  
Two-way ANOVA tests on quality importance by selection types and temporal construal levels.

	Sum of squares	d.f.	Mean square	F-value	p-value
<i>Main effects</i>					
Selection type	32.413	2	16.206**	20.161	0.047*
Temporal construal	9.444	1	9.444***	8.422	0.022*
<i>Interaction effects</i>					
Error	1.608	2	0.804	0.406	0.667
	758.515	383	1.980 <sup>c</sup>		

\*p < 0.05., \*\*p < 0.01, \*\*\*p < 0.001

purchase can be used, but also subsequently changing the time frame in the scenario given to respondents after they had made their initial purchase decision. In addition, this study explored the extent to which the importance of price and quality attributes to selecting the compromise option changed over time.

As shown in Table 1, the compromise effect was present in both temporal levels when the time that the purchase can be used suggested initially (H1). This hypothesis was extended by examining the influences of the temporal construal upon the compromise effect (H2). Interestingly, when the time frame was moved back, the compromise effect was not significant. In other words, the compromise effect was still present when the temporal construal level was closer, while it became not significant when the temporal construal level got distant. This finding shows initial evaluations that concerned decisions with regards to the distant future or immediate future are malleable. In conclusion, Hypotheses 1 and 2 were partially confirmed. Even though people select a middle option, they can have different expectations and criteria about their purchase, so Hypotheses 3 and 4 explored whether the importance of quality/price to selection are different among those responses who select a middle option by temporal level. In terms of quality, there were differences in selected options and temporal levels. That means, those who selected a middle option expected a middle level of quality compared to those who selected lower- or higher-priced services, but the middle level quality expectations are significantly higher for future use than for immediate use. This finding was consistent with the CLT in that the focus is on quality when the construal level is distant (Borovoi et al., 2010). In terms of price, there were no differences in temporal levels but selected option. Therefore, Hypothesis 3 was supported while Hypothesis 4 was rejected.

Although numerous studies have empirically demonstrated the existence of the compromise effect under a utilitarian consumption using retail goods as research items, there have been contradictory results about the existence of the compromise effect under the hedonic travel consumption situation (Kim et al., 2019; Kim & Kim, 2016). Kim et al. (2019) argued that this is because the purchase of a tourism service tends to involve a simple choice task rather than a rejection task that requires a complex value calculation process. Indeed, the compromise effect is one of the context heuristics that results from efforts to reduce the cognitive load involving selection difficulty. In this study, the compromise effect was insignificant when the event was moved back; the results in Table 2 showed the compromise effect was not the modal response when flexibility in the time when the ticket could be used was introduced. Given that people tend to feel relieved and focus on desirability when something was put off, the respondents' purchase selection may be more likely to involve a choice task rather than a rejection task under a postponing situation. Therefore, the results of this study are somewhat in line with previous studies. Furthermore, the respondents in this study were provided with the exact time frame as a research condition, while people, in general, may consider a purchase of tourism service far into the future. We postulate that this difference in temporal construal levels leads to conflicting arguments about the compromise effect in tourism context research. This study explores the influence of temporal level on the compromise effect, and in so doing fills gaps in the explanation of the compromise effect in the tourism context.

We hypothesized that different time levels will influence evaluations of a trade-off between price and quality, and Hypothesis 3 was confirmed. The more distant the theater ticket was to be used, the more likely it was that quality became more pronounced than price in the purchase decision. This was consistent with other findings that reported that desirability received greater weight over feasibility as psychological distance increased. For example, Eyal, Liberman, Trope, and Walther (2004) reported that temporal distance affected the valence of individuals' thoughts such that pros were relatively more salient than

cons in evaluations of actions in the distance rather than the near future. Similarly, when Thomas, Chandran, and Trope (2006) explicitly applied the desirability-feasibility distinction to consumer choice, they found that when the purchase was moved to the near future, information about a price discount increased purchase intentions, but information about additional quality elements did not. In contrast, when the purchase was moved to the distant future, desirability information increased purchase intentions, but feasibility information did not. Hence, promotions relating to events in the future should emphasize their quality/benefits and desirability, while for immediate purchasers the emphasis should be on price.

This influence of temporal construal may reflect the widely-documented tendency to engage in hyperbolic discounting: "There is substantial evidence that both people and lower animals spontaneously value future events in inverse proportion to their expected delays" (Ainslie, 2001, p. 47). The way in which time is perceived is not rational. As points in time are pushed into the future, they are simply viewed as faraway points on a fuzzy horizon (Crompton, 2016). The most important feature of hyperbolic discounting is that it causes individuals to rank near-term and long-term events differently. Hence, the further into the future a price payment is deferred, the lower weighting it is given to a purchase decision. This is consistent with prospect theory (Kahneman & Tversky, 1979) in that delays in costs are viewed as gains.

Theaters are operated by commercial, non-profit, as well as public entities, all of which seek either to maximize profits or to reduce tax subsidies by capturing consumer surplus. The prominence of the compromise effect suggests that purposeful anchoring is likely to be an effective management strategy. The results in Tables 1 and 2 clearly suggest that the higher set of three prices (₩90,000, ₩130,000, and ₩170,000) would likely generate substantially more revenue than the lower prices (₩50,000, ₩90,000, and ₩130,000). In both cases the middle price was preferred for today's use in Tables 1 and 2, but the use of a higher premium price when the event date was postponed in Table 2 ensured that they would yield a higher aggregate revenue.

This strategy is widely used by Broadway Theaters in New York City, where it is standard practice to charge seemingly outrageous prices for a few premium seats, because it frames the remaining prices as being reasonable. For example, one of the authors recently purchased tickets for the musical Hello Dolly on Broadway. The highest priced premium seats were \$1400, which had the effect of making the \$250 seats in the middle of the theater seem a reasonable compromise price, whereas without that high premium they would have appeared costly.

This study proposed that potential customers may make different purchase decisions depending on when the purchase is to be used. According to the study results, it is recommended to encourage customers to reserve in advance, so that they may want to purchase high quality even at high price. If possible, customers should also be allowed to change their tickets freely, because those customers who want to postpone their schedule are likely to upgrade their tickets to more expensive ones. Lastly, the fundamental goal of a business is improving image of a company (Chua, Kim, Lee, & Han, 2019; Han, Yu, & Kim, 2019), creating loyal customers (Han, Kiatkawsin, Jung, & Kim, 2018; Moon & Han, 2019), and maximizing profit, so how the pricing strategy

**Table 5**  
Two-way ANOVA tests on price importance by selection types and temporal construal levels.

	Sum of squares	d.f.	Mean square	F-value	p-value
<i>Main effects</i>					
Selection type	67.786	2	33.893	48.681	0.020*
Temporal construal	0.756	1	0.756	0.684	0.429**
<i>Interaction effects</i>					
Error	1.392	2	0.696	0.315	0.730***
	847.195	383	2.212 <sup>c</sup>		

\*p < 0.05., \*\*p < 0.01, \*\*\*p < 0.001

influence image, loyalty, and profit should be considered.

The authors expect this study to benefit not only future researchers but also practitioners, as a seminal work that investigates customers' reactions to different price options and temporal construal, and provides a suggestion for cost-effective revenue-management strategies for tourism and leisure companies. We hope that this study stimulates further relevant research in the service context (Table 5).

**6. Limitations and future research**

The study had some limitations, which serve to indicate several directions for future research. Like most previous studies concerning consumer behavior, this study used scenario-based surveys and experimental designs with highly involved student samples in the classroom. The respondents were given brief travel scenario messages and price options to increase convenience and thereby maximize response rates. However, if the study used a larger sample of actual customers and was conducted in a field- rather than a laboratory-setting, more generalizable conclusions could be suggested. Further, future researchers should compare customers' responses to various price and quality options in different travel contexts to generalize the conclusions, as the effect of price information and travel contexts can differ with the extent of their elaboration (L. Ferguson & Scholder Ellen, 2013). The study suggests pricing strategies to increase revenue only from the cost-oriented perspective, but there are also two other perspectives: competition-oriented and customer value-oriented. The main

disadvantage of a cost-based pricing strategy is that it ignores the pricing dynamics related to demand and competition, such as willingness to pay, price elasticity, and competitive price level. In a real market, the justification of price levels to make a profit depends on purchase context and/or marketing conditions (Hinterhuber & Liozu, 2012). For example, customers' reactions to price can vary according to the purpose of travel, accompanying persons, presence of sponsorship, and mood (Ene & Schofield, 2011; Correia, Kozak, & Ferradeira, 2011). In addition, various external factors should be considered, because diverse contexts such as furnishings, noise, and employee courtesy may also influence price perceptions (Han, 2013; Ryu & Jang, 2007).

While the strength of the temporal construal and compromise heuristics is their ability to provide a parsimonious understanding of how price evaluations are made and how they change over time, purchase decisions are complex. They involve numerous variables and multistage contingent processing (Jeng & Fesenmaier, 2002), and are influenced by a host of situational variables such as values, lifestyles, motivation, expectation, personality characteristics, constraints, family, culture, etc. (Mazursky, 1989; Michie & Sullivan, 1990; Sirakaya & Woodside, 2005). Clearly, changes in these variables may also explain evaluation differences over time. Hence, the influence of the two heuristics that were the focus of the study will be limited. Nevertheless, the results suggest that managerial appreciation offers substantial potential for revenue enhancement not only for theaters but, by extension, to a wide range of tourism and hospitality management contexts.

**Appendix A. Proposed price and quality options for each set**

The following questions refer to the situation described in the box below. please answer the questions in order.

Scenario: Please assume a famous show of "Stars of the Theatre" is appealing you and that show performs at your travel destination.

Question:

Please assume that the famous "Stars of the Theatre" show is performing at your travel destination, and you'd like to see it. Imagine you are traveling alone. The show is on TODAY at your travel destination, so you're checking ticket options. In order to remember the time to purchase ticket and watch the show, please rewrite "today" here ().

Please circle which of the below seats you'd prefer, if there are only three seat options available.

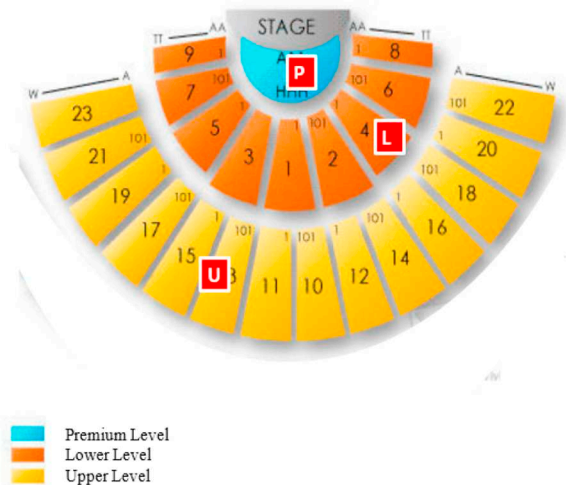
Set 1<sup>a</sup>

L (Lower level): ₩130,000  
 U (Upper level): ₩90,000  
 G (General level): ₩50,000



Set 2

P (Premium level): ₩170,000  
 L (Lower level): ₩130,000  
 U (Upper level): ₩90,000

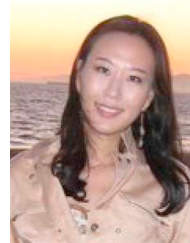


<sup>a</sup> Set 1 or Set 2 was presented depending on the questionnaire type.

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