

BOOK NOW, PAY LATER: AN INVESTIGATION OF  
DELAYS IN PAYMENTS, TEMPORAL DISTANCE  
AND INCENTIVE TYPES

By

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Abstract: With competition in the hotel industry getting more intense, many hotel companies are trying hard to provide various booking options for consumers and one of such options is the ‘book now, pay later’ option. This option allows people to book a hotel instantly without making any payment, and then pay the whole amount for that booking when they check-in at the hotel. Despite the prevalence of this phenomenon, to date, limited research has examined the psychological influence of ‘book now, pay later’ transactions on consumers. The overall purposes of this dissertation research are (a) to examine how consumers’ booking decision-making processes change according to temporal distance (the time of booking) when payments are delayed to the future (i.e., ‘book now, pay later’ option) without paying a premium (Study 1), and (b) to investigate how temporal distance and incentive types influence consumers’ payment preferences and perceived risks when the delayed payments involve paying a premium (Study 2). The results of Study 1 indicate that people who plan to travel in the distant future perceive less risks and have a higher intention to book when they are under the ‘pay later’ condition than the ‘pay now’ condition. However, those who plan to travel in the near future exhibit no such differences in perceived risks and purchase intention. Study 2 examines what types of payment options (‘pay now’ with non-monetary incentive vs. ‘pay now’ with monetary incentive vs. ‘pay later’) are preferable when the temporal distance between booking and arrival is relatively near vs. far. The findings suggest that people are more likely to choose the ‘pay now’ with monetary incentive option (i.e., less costs) when the travel time is in the near future than in the distant future. The results also indicate that people who plan to travel in the distant future perceive significantly higher risks from the ‘pay now’ with non-monetary and monetary incentive options than the ‘pay later’ option. However, those who plan to travel in the near future exhibit no such differences in perceived risks. The dissertation concludes with theoretical and managerial implications of the research.

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## CHAPTER I

### INTRODUCTION

#### **Background**

When people book a hotel room, they usually are in a dilemma: “Should I book now or wait until later to get better deals?” Booking now means they will not have a chance to get potential future discounts, but they will have a hotel room ready for them with peace of mind (without sell-out risks) and they may not have to spend more time and energy searching for alternative options. This hotel booking environment, along with dynamic hotel pricing strategies, requires people to decide *when to book*. More importantly, there is another choice related to time in the hotel booking situation – ‘*when to pay*.’ With more intense competition in the hotel industry, service providers are trying hard to provide various booking options for consumers, and they regard these options as the key differentiation factors to win out the competition. One of such options is the ‘book now, pay later’ option. Through this option, consumers can delay their payment to the future. Although some luxury hotels may ask a guest to make an advance deposit to guarantee a reservation and the full amount is applied to the guest’s bill upon checkout (TripSavvy, 2020), most of the ‘book now, pay later’ hotels allow consumers to delay their whole amount until check-in. Given the COVID-19 crisis situation, consumers

look for more flexible, economical, and versatile ways to pay, especially online, and as a result, ‘buy now, pay later’ services have accelerated in popularity (Fortune, 2020).

According to TripAdvisor’s internal research (2019), the ‘book now, pay later’ option results in a greater likelihood of a conversion to confirm their booking in advance. The TripAdvisor survey showed consumers would choose to book something in advance, but they would not have chosen to reserve it and pay in advance. Moreover, 62% of participants indicated that flexibility was the major reason for their interest in the ‘book now, pay later’ option. This option does not only confer benefits on consumers but service providers as well by offering the consumers what they want (i.e., flexibility); service providers are ultimately able to expect more early bookings in situations where the consumers otherwise would have put off and waited, possibly not returning to the room listing (TripAdvisor, 2019). However, this option is not without problems if implemented without careful consideration. For instance, no financial commitment can lead to no-shows and last-minute cancellations and this directly affects hotels’ profit margins and is a major challenge (Hotel Online, 2018). To address this issue, some service providers charge a premium for the ‘pay later’ option or give an incentive for the ‘pay now’ option, but how this strategy affects consumers’ payment preferences and perceptions according to their time of booking remains unknown.

To what extent is it worth offering the ‘pay later’ option to consumers? There have been multiple theoretical approaches to exploring various aspects of the nature and function of ‘pay later’ (delays in payments). According to hyperbolic discounting, the way people perceive time is not rational (Crompton, 2016), and therefore they consider near-term and future-term events in a different way. For example, as points in time are moved into the future, people consider them simply as far-off points on a vague horizon. As such, the way

an event is perceived is not rational, and it makes people rank near-term and long-term events very differently. When payment is pushed into the future (i.e., book now, pay later), a purchase decision may receive lower weight. To understand the ‘buy now, pay later’ transaction of *retail products*, Prelec and Loewenstein (1998) and Siemens (2007) showed a decoupling effect (transaction decoupling) that happens when consumption benefits precede costs. Decoupling is when the two parts of a process are separated. Such approaches, however, are limited in explaining the ‘book now, pay later’ transaction in the online *hotel booking* setting because unlike the decoupling effect for retail products, consumption benefits are coupled with payments, rather than precede payments, in the ‘book now, pay later’ situation.

More importantly, the extant literature has not taken into account different types of ‘pay later’ that could potentially require different theoretical explanations because some ‘pay later’ situations require paying a premium (fee). Research on inter-temporal choice (“should I choose it now or later?”) provides an important theoretical foundation to analyze people’s decision-making when the outcomes are different depending on time (smaller-sooner versus larger-later rewards). However, inter-temporal choice involves not only gain options (e.g., rewards) but also is related to losses (e.g. costs for hotel rooms). The majority of previous studies on inter-temporal choice overlooked this aspect and mainly focused on hypothetical situations regarding gains (e.g., getting money). Also, the existing studies traditionally have two choice options (e.g., \$100 today vs. \$110 in a month) using the same type of reward (i.e., monetary rewards), but they did not take account of situations where people have more than two choice options with different types of outcomes (e.g., paying \$100 vs. \$ 110 with free gift). This dissertation research, therefore, serves to fill the important gaps in the literature

by not only providing the empirical investigation of choices over time (i.e., pay now vs. pay later), but also investigating both two types of incentive types (i.e., non-monetary vs. monetary incentive) in the context of hotel booking. In summary, to understand and answer these hospitality industry's trending issues, this dissertation research investigates why and how delays in payments (i.e., pay later) and incentive types influence consumers' perceptions based on the time of booking.

### **Purposes and Objectives of the Research**

The overall purposes of this dissertation research are (a) to examine how consumers' booking decision-making processes change according to temporal distance (the time of booking) when payments are delayed to the future without paying a premium (Study 1), and (b) to investigate how temporal distance and incentive types influence consumers' payment preferences and perceived risks when the delayed payments involve paying a premium (Study 2). In the first study, the study examines the first type of delays in payments (i.e., book now, pay later *without* paying a premium). The first study posits that people consider delays in costs (payments) as gains, while delays in benefits are considered as losses. If price payment is pushed into the future, a purchase decision receives less weight. When faced with the 'book now, pay later' option, consumers might be either in the last-minute booking situations (e.g., same-day booking or booking a hotel one day before the date of arrival) or in the advance booking situations (e.g., booking a room six months before arrival). People who are in the latter situation may place greater value on the 'book now, pay later' option. Thus, different consumers may perceive the option differently based on their situations. The study

proposes that when temporally far from the date of arrival, online hotel bookers who have the free ‘book now, pay later’ option feel less burdened by payments and risks, and in turn, have higher intention to book. Specifically, the objective of the first study is twofold: first, the study examines whether delays in payments influence consumers’ perceived price and risks, and purchase intention; second, the study investigates whether temporal distance influences such relationships.

The second study examines another type of delays in payments (i.e., book now, pay later *with a higher price*) and incentive types. Unlike the first type of delays in payments *without* paying a premium, when facing delays in payments with a higher price as an option, people would be in a financial dilemma because it is an inter-temporal choice situation (“should I choose it now or later?”), which requires people to trade-off benefits (i.e., delaying payments or getting an incentive) and costs (i.e., paying a premium or taking a non-refundable risk) over time. Traditionally, inter-temporal choice studies have mainly dealt with current small rewards versus future large rewards, not losses (Hardisty et al., 2013). However, Study 2 explains how people react to now-smaller losses (i.e., pay now with monetary or non-monetary incentive) versus later-larger losses (i.e., pay later) and how they perceive different types of incentives over time. Thus, Study 2 attempts to examine what types of payment options (‘pay now’ with non-monetary incentive vs. ‘pay now’ with monetary incentive vs. ‘pay later’) are preferable when the temporal distance between booking and arrival is relatively near vs. far by applying construal level theory. Also, this study investigates how the payment options and temporal distance jointly influence consumers’ perceived financial, psychological, and time risks. To summarize, the primary

objective of the second study is to examine the joint impacts of temporal distance and incentive types on consumers' payment preferences and perceived risks.

## **Significance of the Research**

### **Expected Theoretical Significance**

The present dissertation research is expected to extend the hospitality and marketing literature in several theoretically meaningful ways. First, this dissertation is expected to contribute to the previous literature of delays in payments. Prior research mainly focused on the cost and behavioral aspects of the delays in payments. This dissertation research was to extend the scope of the study by examining the perceived risks well. In the case of ordinary retail products, the decoupling effect (e.g., buy now, pay later) happens when consumption benefits temporally precedes transaction costs (Siemens, 2007). While diverse forms of this transaction decoupling (decoupling effect) have been widely studied in general retailing settings, such as liquor stores and supermarkets, this approach has limits in analyzing the 'book now, pay later' transaction because of the nature of the hotel industry. For example, consumers' perceived risks from the 'pay now' or 'pay later' transaction may vary depending on their temporal distance between the time of booking and arrival. By investigating into this dynamic 'book now, pay later' transaction, this dissertation will provide an understanding of how delays in payments influence online hotel bookers' perceived financial, psychological, and time risks.

Second, this dissertation research is expected to extend transaction de-coupling (i.e., buy now, pay later) literature by examining situations where delays in payments require a



premium (i.e., higher price) in the online hotel booking setting. The majority of the previous studies on transaction de-coupling have mainly focused on the delays in payments which do not require any fees for 'pay later' (e.g., Siemens, 2007; Gourville & Soman, 1998). While in many cases, service providers either charge a premium for 'pay later' or give an incentive for 'pay now', an empirical investigation into how people react in these situations is lacking. The current dissertation research attempts to fill this gap by examining the 'pay later' situations that require a higher cost for delaying costs (i.e., paying a premium). In addition, this dissertation research is expected to represent a critical step toward understanding how people perceive 'pay later' with a premium according to their time of booking.

Finally, this dissertation is expected to contribute to the construal level theory (CLT) literature by investigating incentive types in the online hotel booking context. To date, numerous studies have examined the moderating role of temporal distance using construal level theory as a theoretical basis. However, little CLT research has investigated how temporal distance moderates the effects of incentive types on consumers' preferences and perceived risks in spite of the fact that consumers often encounter and consider incentive types and temporal distance simultaneously. For example, consumers may evaluate a hotel room offer by considering an incentive type (i.e., non-monetary incentive vs. monetary incentive) and the time of booking (i.e., early booking vs. late booking) at the same time, which may have matching effects (i.e., when people encounter a message that is matched with their mental representational state, the persuasive effects of the message will be enhanced) on the consumer. Thus, this dissertation research attempts to provide a better understanding of what motivates consumers to prefer a certain type of incentives and why

their preferences for certain incentive types may change based on the temporal distance between the time of booking and arrival.

### **Expected Practical Significance**

There are several expected practical implications of this dissertation research. First, this dissertation can guide hotel providers on how they can effectively use the ‘book now, pay later’ option. By providing empirical evidence for the moderating role of temporal distance, this dissertation will help hotel marketers better assess how much the ‘book now, pay later without a premium’ option is worth to a consumer’s perceived price and booking decisions over time. This research suggests that when the date of arrival is in the near future, the ‘pay later’ option may not lead to lower perceived price nor higher booking intention. If the difference between ‘pay now’ and ‘pay later’ is not significant under these situations (e.g., last-minute bookings), it would be better for service providers who offer the free ‘pay later’ option regardless of a customer’s booking time to consider not doing so. In this context, hotel marketers should not overuse the free ‘book now, pay later’ option in order to lock in their customers. In contrast, under the circumstances in which temporal distance is relatively long, service providers may provide the ‘pay later’ option for free instead of an ill-conceived price discount in order to encourage advance booking and ensure its profitability. This can be done if they recognize the dynamic value of the ‘pay later’ option, depending on the time of booking.

Second, this dissertation research is expected to provide helpful suggestions on the use of incentives for the ‘pay now’ option. Possible guidance for service providers could be that if the arrival date is temporally near, they may offer monetary incentives to encourage

consumers to choose the 'pay now' option. On the contrary, if the arrival date is temporally far, service providers may provide non-monetary incentives instead of monetary incentives to promote the 'pay now' option. In doing so, service providers may have a better profit margin on the 'pay now' option because the actual net costs of non-monetary incentives (e.g., free upgrade or free gift) are substantially less than the prices consumers pay for those services or products.

Lastly, this dissertation research will help service providers better understand consumers' perceived risks from each payment option according to the time of booking. A possible lesson from this research is that when booking, consumers may perceive even less risks from the 'pay later' option in the 'distant future' condition (e.g., six months before arrival) than the 'near future' condition (e.g., one week before arrival) although the greater temporal distance from the date of arrival intensifies consumers' perceived risks. When the arrival date is temporally far, marketers may place an emphasis on the psychological aspects of the 'pay later' option (e.g., peace of mind) in order to encourage consumers to make advance bookings because the greater temporal distance consumers have, the less risks (the more benefits) they may perceive from the 'pay later' option. However, this research anticipates that either the two types of incentives for the 'pay now' option do not decrease consumers' perceived risks. Therefore, this dissertation is expected to suggest that incentives for the 'pay now' option may not necessarily influence consumers' purchase intentions if traveling time is in the relatively distant future.

## **Organization of the Study**

This dissertation is organized as follows: Chapter one provides an introduction to the study. It contains a brief overview of the study and the purposes and objectives of this dissertation. In addition, both theoretical and practical significance of the study is discussed. In chapter two, an overarching review of related literature is provided to better understand the main theoretical background of this dissertation. In chapter three, Study 1 examines how delays in payments without a premium and temporal distance jointly affect perceived price and risks, and purchase intention. In chapter four, Study 2 investigates how temporal distance and incentive types influence consumers' payment option preferences and perceived risks when paying a higher price for a delayed payment option. Both chapters three and four, a brief review of the conceptual background for each concept, the proposed research hypotheses, the conceptual frameworks are presented. Also, these chapters present the methods and the results of each study including sample, research design, measurement, and data analysis methods. Finally, chapter five includes discussions about the findings of this dissertation and the managerial and theoretical implications of the findings. Also, the chapter concludes with limitations and recommendations for future research.

## CHAPTER II

### REVIEW OF LITERATURE

#### **Overview**

The objective of this chapter is to provide the overarching theoretical backgrounds of the frameworks of the current dissertation research. There are three sections in this chapter. In the first section, this research introduces delays in payments as a main theoretical base. Also, the notions of transaction decoupling and hyperbolic discounting are provided to explain the concept of delays in payments. The second section provides a review of literature in temporal distance and construal level theory and how these concepts apply to the current research as another main theoretical foundation. Finally, the third section presents the concept of incentive types and how this concept interacts with temporal distance.

#### **Delays in Payments from Transaction Decoupling and Hyperbolic Discounting Perspectives**

The ‘pay later’ transaction can be conceptualized as delays in payments. There are two theoretical perspectives for the notion of delays in payment: ‘transaction decoupling’

and ‘hyperbolic discounting’. Although they come from different disciplines, both concepts explain what happens when payments or costs are delayed.

### *Transaction Decoupling*

The first theoretical basis for delays in payments (i.e., ‘book now, pay later’ transactions) draws on the concept of “transaction decoupling”. This concept is closely related to the notion of delays in payments because it explains what happens when the cost of the transaction is deferred in a retail setting. Coupling has been defined as the psychological link between the benefits and the payment related to the consumption of goods (Prelec & Loewenstein, 1998), and decoupling happens in situations when the two parts of a process are separated. There are two possible cases where temporal separation of transaction costs and benefits might take place (Simens, 2007). First, there could be an occasion when a consumer would pay for a product temporally before consumption (e.g., paying now and consuming later). According to Gourville and Soman (1998), in this case, where payment occurs prior to the benefit in a transaction, people pay more attention to sunk costs, which mean the costs that have been incurred and cannot be recovered.

A second case is when transaction benefits temporally precede transaction costs. For example, a consumer might receive a product prior to actually paying for it (e.g., buy now, pay later). Although prior studies have focused on the implications of the first possible case of transaction decoupling (i.e., paying now and consuming later), the current dissertation research examines the second possible case of transaction decoupling

by applying the instance of ‘book now, pay later’ transactions. Previous studies found that the decoupling of transaction benefits and costs (i.e., buy now, pay later) leads to a significant change in the psychological representation of these transactions (Gourville & Soman, 1998; Prelec & Loewenstein, 1998; Soman & Gourville, 2001). According to Prelec and Loewenstein (1998), and Soman and Gourville (2001), when a payment is decoupled (i.e. ‘buy now, pay later’) from the consumption of a benefit (i.e., situations when the benefit temporally precedes the payment), the sunk cost influence of the payment on the purchase decision is decreased. Prelec and Loewenstein (1998) also found that transaction decoupling or decoupling effect leads to electronic payment (i.e., paying with a credit card) because this allows for the payment and the benefit to become separated in the consumer’s mind. Therefore, the electronic payment methods do not have enough vividness and transparency, and the actual cost of the transaction becomes obscured. For this reason, payment by cash is more painful than payment by credit cards.

The current dissertation search proposes that the same principle applies to the hotel booking situations. When a hotel offers the ‘book now, pay later’ option, hotel bookers may recognize that the cost of the transaction is deferred, thus, ‘pay later’ is less vivid than ‘pay now’. Therefore, if people pay the hotel room price on the date of arrival (i.e., ‘book now, pay later at the property’; no time-delay between costs and benefits), they will be more satisfied based on this notion. One major difference between the transaction decoupling (i.e., *buy* now, pay later) and the ‘*book* now, pay later’ transaction is that, unlike the transaction decoupling in retail products, consumption benefits are coupled with payments, rather than precede payments (decoupled), in the ‘book now, pay later’ situation. These deferred payment plans (i.e., book now, pay later) are an important

part of recent hospitality and tourism consumer and marketing transactions. Despite the prevalence of this phenomenon, until now, limited research has examined the psychological influence of ‘book now, pay later’ transactions on consumers. This lack of research may be attributed to the fact that some psychological factors that could impact consumers’ hotel booking decision-making process still have not been identified and measured. To expand the existing literature on transaction decoupling of retail products, this study attempts to demonstrate how the ‘book now, pay later’ transaction (coupled) influences the customer booking decision-making process in the online hotel booking setting.

### *Hyperbolic Discounting*

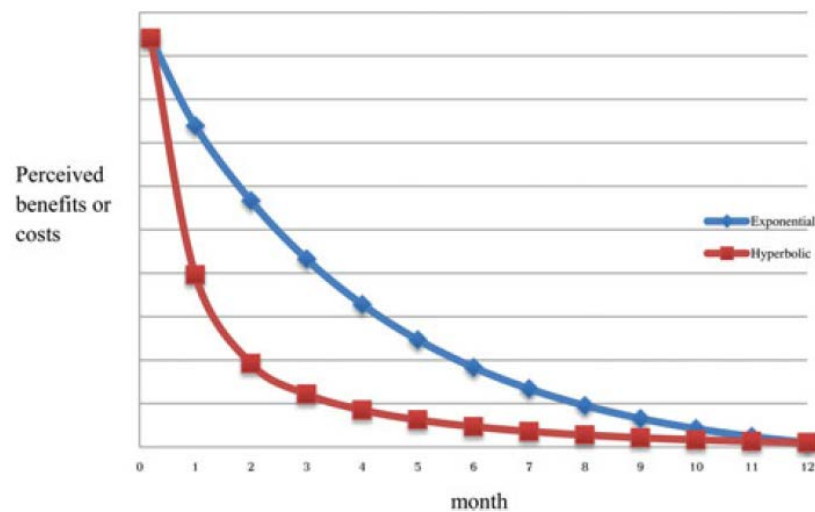
Another approach to explaining the ‘pay later’ transaction is hyperbolic discounting (Ainslie, 2001; Samuelson, 1937) from an economic perspective. Hyperbolic discounting is a time-inconsistent model of delay discounting, and it is one of the cornerstones of behavioral economics (Ainslie, 2016). Figure 1 shows the hyperbolic discounting phenomenon. At the time a good or a service is purchased, the perceived benefit (or cost) is very high. The traditional exponential curve shows the rate of decay over a 12-month period to be constant. On the other hand, the hyperbolic curve shows the perceived benefit (or cost) decays drastically in the first three months and remains more or less constant after that period. According to the hyperbolic discounting, if a price payment is pushed into the future, a purchase decision receives less weight. Ainslie (2001, p. 47) demonstrated “there is substantial evidence that both people and lower animals spontaneously value future events in inverse proportion to their expected delays”.



The most important characteristic of hyperbolic discounting is that it leads people to rank near-term and long-term events quite differently. Therefore, the farther into the future that the price payment is deferred, the less people weigh a purchase decision.

**Figure 1**

Comparison of exponential and hyperbolic decay curves (*Source: Crompton, 2016*)



A possible example of this phenomenon in the hotel booking context is that if people can delay their payment for a hotel room for three months, they may perceive the cost *significantly* less compared to the cost calculated by a normal discount rate. In prospect theory (Kahneman & Tversky, 1979) terms, delays in costs (payments) are considered as gains, while delays in benefits (price discounts) are considered as losses. This current dissertation research posits that the value of delayed payments depends on how long people can postpone a payment to the future. That is, although people perceive delays in payments as gains, they may devalue the ‘book now, pay later’ option when

their temporal distance between the time of booking and the date of arrival is relatively short. Therefore, delays in payments and temporal distance are inextricably linked and should be considered *together*.

### **Temporal Distance from Construal Level Theory Perspective**

Time is one of the most important dimensions that affects a wide range of human behavior (Carstensen, 2006). Due to its importance and relevance to our daily lives, time has received much attention from researchers across multiple disciplines and from different perspectives. In the same manner, time has an important role in the hospitality and tourism industry because both customers and hotels make bookings and pricing decisions based on time (Chen & Schwartz, 2008). This time in the hospitality and tourism context can be conceptualized as temporal distance. Temporal distance is defined as “how much time (e.g., near future or distant future) separates between the perceiver’s present time and the target event” (Bar-Anan, Liberman, & Trope, 2006, p. 609), and it is one kind of psychological distance, which refers to “a subjective experience that something is close or far away from the self, here, and now” (Trope & Liberman, 2010, p. 440).

Construal level theory (CLT) posits that the psychological distance, including temporal distance, influences the evaluation and choice of future events, objects, and tasks by changing the way people mentally construe them (Trope & Liberman, 2010; Trope et al., 2007). Psychological distance was originally explained by temporal distance (present vs. past/future), then it was extended to social (self vs. other), geographical (close vs. far), and hypothetical (certain vs. probable) distance (Trope & Liberman,

2010). According to construal level theory, temporal distance changes individual representations of the events by affecting how people construe them in their minds. People perceive situations differently in the continuum of construal from high to low levels. Specifically, distant future events, that is, those that feel far away in terms of time, are construed on a higher level (i.e., using more abstract and central features) because distant events depend upon generalized processing schemas. In contrast, near future events, which feel imminent or impending in terms of time, are construed on a lower level (i.e., using more concrete and detailed features) because near events relate to specific details (Trope & Liberman, 2003). For instance, in situations where people may select a lecture to attend, in the distant temporal condition (plans on taking a lecture in the distant future), people put more weight on the interest value of the lecture whereas in the near temporal condition (plans on taking a lecture in the near future), they place greater value on the convenience of timing (Liberman & Trope, 1998). In this way, perception about distant future events is more likely to be based on relatively core and abstract features of events, whereas perception about near future events is likely to be based on more peripheral and concrete features of events.

Besides, high-level construals are that people highlight *why* they need to pursue certain actions for the events, as well as the superordinate goals of the events; however, low-level construals are that people focus on *how* to achieve the events, as well as the subordinate aspects of the events (Trope et al., 2007). For example, Vallacher and Wegner (2014) examined the impact of time on action identification. They found that a long time in advance, people represented their wedding in high-level terms, such as "expressing love," whereas on the day of the wedding they expressed their wedding in

lower-level terms, such as "having pictures made." According to Liberman and Trope (1998), in goal-directed activities, desirability of the activity's end state means a high-level construal, whereas the feasibility of reaching this end state means a low-level construal. Considering this characterization, construal level theory predicts that the influence of desirability considerations, relative to the influence of feasibility considerations, will be stronger on distant future compared with near future decisions. Accordingly, the interpretation of events will change with different temporal distances (Liberman & Trope, 2003).

Applying these notions to the hotel booking context, advance booking (i.e., early-bird booking) corresponds to distant future situations and late booking (e.g., last-minute booking) is applicable to near future situations, and this time of booking (temporal distance from the date of arrival) influences customers' booking decision-making process. The terms "near future" and "distant future" may have subjective meanings but most of the CLT studies have used the same or similar terms (e.g., near vs. far future – Kim et al., 2016; Teng & Chang, 2014) for temporal distance because the original theory by Liberman and Trope (1998) used the term "near and distant future". There are several studies that have examined the impact of temporal distance on consumers' decision-makings in the hospitality and tourism setting (Chen & Schwartz, 2008; Kim et al., 2016; Kim, Kim, & Kim, 2018). For example, Kim et al. (2018) examined the impact of temporal distance (2-level: near future vs. distant future) on leisure travelers' evaluation of abstract/concrete hotel attributes and further investigated whether gender moderates the influence of temporal distance based on the construal level theory (Liberman & Trope, 1998; Trope & Liberman, 2010). Also, Kim et al. (2016) investigated the

influence of temporal (3-level: near future vs. middle future vs. far future) and spatial distance on the assessment of abstract/concrete promotional messages. Chen and Schwartz (2008) empirically tested how and why customers' propensity to book changes over time, and the results of their study underscored the importance of the time element in customers' hotel booking decisions. Although numerous previous studies have investigated the effects of temporal distance in the hospitality and tourism context, no empirical research has been conducted on how temporal distance interacts with delays in payments (i.e., pay later). In addition, how temporal distance moderates the effect of incentive types, which is discussed in the next section, is still unknown. This research attempts to fill these gaps by providing empirical evidence of the relationships of those factors. In the following section, the research introduces incentive types as a situational factor that jointly affects consumers' perceptions and behaviors with temporal distance.

### **Types of Incentive and Construal Matching Effect**

Marketers frequently use incentives to boost their sales and influence consumers' purchase decisions (Shi, Cheung, & Prendergast, 2005). Incentives can be divided into two types: non-monetary and monetary incentives (Hanley et al., 2006). In the hotel and tourism context, monetary incentives include price discounts on rooms and travel products, or providing a small amount of cash or a gift card for spending during the tour. Non-monetary incentives can include free upgrades, free gifts, and complimentary meals offered by service providers to entice people to book hospitality products (Chou & Lien, 2012). There were several studies that examined which incentive types generate better

effects (Kung & Huang, 2008; Weisstein, Monroe, & Kukar-Kinney, 2013; Wolfe & Loraas, 2008) but there has been no consistent conclusion.

Consumers may perceive different incentive types differently in terms of gains vs. losses (Campbell & Diamond, 1990). When incentives are represented in non-monetary form, non-monetary incentives (e.g., free upgrade) are more often regarded as separate gains because the benefits will be difficult to factor into the price. Non-monetary incentives can also be regarded as high-level construed messages because they place the emphasis on ‘gains’ (more for the same – obtaining more benefits for the same price), which indicate the desirability of an event’s outcome (Chou & Lien, 2012). Desirability refers to the value of an event’s outcome and indicates ‘why’ aspects of an event, therefore constituting high-level construals (Trope & Liberman, 2003). On the other hand, when incentives are in monetary form, monetary incentive (e.g., discount) can be easily integrated with price, and therefore the outcome can be considered as a reduced loss/cost (Chou & Lien, 2012). Monetary incentives can also be regarded as low-level construed messages because they place the emphasis on ‘costs’ (the same for less – spending less money purchasing a service/product that offers equal benefits), which indicate the feasibility of an event’s outcome. Feasibility refers to the ease or difficulty of reaching the event outcome and indicates ‘how’ aspects of an event, constituting low-level construals (Trope & Liberman, 2003).

According to Kim, Rao, and Lee (2009), the matching or mismatching between people’s mental representation of the event (i.e., high or low-level mental construals) and the construed level of the message (i.e., abstract or concrete) affects people’s evaluation of the message. When people encounter a message that is matched with their mental

representational state, the persuasive effects of the message will be enhanced.

Conversely, when people encounter a message that is not matched with their mental representational state, they will perceive the message as being less fluent and give it less weight. There are two reasons why the persuasive effects of the message tend to be enhanced when people face a message that is consistent with their mental representational state. (a) People with matching tend to experience a feeling of ease or fluency of understanding, which leads to a sense of 'feeling right' (Reber et al., 2004). In this case, people will yield a more positive evaluation of the message because they may falsely attribute their 'feeling right' experience to the message itself and believe that such experience comes from a better quality message (Kim et al., 2009). (b) People perceive that matching messages are more helpful when making a decision (Martin et al., 2009). A match will also prompt people to put more weight on the message (Pretty & Wegener, 1998), which will strengthen the effect of the message. As a result, people will pay less attention to it, which will attenuate the persuasiveness and preference of the message. This research predicts that the matching of incentive type (non-monetary vs. monetary) with construal level (short vs. long temporal distance) facilitates the cognitive process and enhances persuasion and preference.

## CHAPTER III

### STUDY 1 – EFFECTS OF DELAYS IN PAYMENTS AND TEMPORAL DISTANCE: WHEN ‘PAY LATER’ IS FREE

#### **Overview**

In this chapter, the hypotheses development, methods, and results of Study 1 are presented. First, the chapter presents hypotheses development with a review of the literature. Next, the chapter describes the experimental design of the study. Then, this chapter proceeds to provide the results of the statistical analyses. Finally, this chapter includes discussions about the findings of this study.

#### **Hypotheses Development**

##### **The Effects of Delays in Payments**

###### *The Effects of Delays in Payments on Perceived Price and Purchase Intention*

As previously mentioned in the discussions of transaction decoupling and hyperbolic discounting, people can differ in the costs they perceive from their purchases when the costs are deferred to the future. These perceived costs can be understood by the concept of perceived price in a consumer purchase context. Perceived price is defined



as customers' relative evaluation of price, and it is used to capture consumers' evaluation of price (Chiang & Jang, 2007). Perceived price can also be described as "the customer's judgment about a service's average price in comparison to its competitors" (Chen, Gupta, & Rom, 1994, p. 25). Perceived price is important because price has been considered one of the most significant components in explaining customer behaviors (Keaveney, 1995), and price is a key factor in understanding and predicting consumer behaviors. Previous studies have shown that perceived price is a critical determinant of consumers' purchase behaviors and highlighted the importance of perceived value, which is closely related to perceived price, in explaining consumer behaviors. However, limited empirical work has examined the impact of perceived price on consumer behaviors in the service industry. Ryu and Han (2010) investigated the moderating effect of perceived price in the relationship between three dimensions of quality (i.e., quality of food, service, and physical environment) and customer satisfaction in a restaurant setting. Chiang and Jang (2007) examined the impacts of perceived price and brand image on perceived quality, trust, perceived value, and travelers' purchase intentions for online hotel booking. The results of their study showed that when customers perceive that a price offered by a hotel is more reasonable than their internal reference price or competing prices at other hotels, they tend to perceive higher quality and higher consumer value, and are more likely to have greater purchase intention. While these previous studies examined the impacts of perceived price, they did not consider the factors such as delays in payments as which may affect consumers' perceived price in the service industry setting. In the current study, perceived price is examined by applying the concepts of delays in payments to see how customers' perception on price changes when a payment is delayed to the future.

As discussed in the literature review section, according to hyperbolic discounting (Ainslie, 2001), as a payment is pushed into the future, people perceive less costs. Therefore, their purchase decisions receive less consideration. Similarly, Prelec and Loewenstein (1998) showed that decoupling effect (transaction decoupling) leads to an electronic payment such as credit card instead of cash because people may be able to defer their actual cash payment by the electronic payment methods: the delayed payment induces a perceived reduction in price because the actual cost of the transaction is obscured. Thus, payment by cash (pay now) is perceived as more painful than payment by credit cards (pay later). Based on these evidences, this study proposes that when a hotel offers the ‘book now, pay later’ option, hotel bookers may perceive less costs because delayed payments (pay later) are less vivid and painful than ‘pay now’. Thus, it is proposed:

***H1:** Perceived price differs by the time of payment such that perceived price is lower when customers are under the “pay later” than under the “pay now” condition.*

The best predictor for anticipating actual behavior is the intention of a person to execute the behavior (Fishbein & Ajzen, 1975). Purchase intention refers to one’s personal forecast regarding the possibility of future behavior; or the transaction behavior that consumers tend to perform after assessing a product; or the purchase possibility based on the consumer’s response to a product (Schiffman & Kanuk, 2000; Spears & Singh, 2004). Purchase intention has gained significant research interest as a stable

construct to predict buying behavior (Anderson & Srinivasan, 2003; Armstrong & Kotler, 2003; Chen & Dubinsky, 2003; Cronin et al., 2000; Oh & Xu, 2003; Pura, 2005). Also, purchase intention has served as a dependent measure in numerous research studies in defect of actual behavioral data (Manski, 1990). Morwitz and Schmittlein (1992) considered purchase intention as the most valuable item of a marketer's prediction of purchase behavior within the marketing research field. Armstrong and Kotler (2003) also showed that purchase intention is the key indicator utilized in forecasting consumer behavior. For this reason, when a company is trying to draw or keep customers, understanding their purchase intention serves as a major factor (Thang, 2008). As discussed above, when a price payment is scheduled for the future, the decision to purchase seems less burdensome. Also, delayed payments are considered as gains. Hence, based on these evidences, the following hypothesis is proposed:

***H2:** Purchase intention differs by the time of payment such that purchase intention is greater when customers are under the “pay later” than under the “pay now” condition.*

#### *The Effects of Delays in Payments on Perceived Risks*

Risk is composed of the size of potential loss (or the subjective possibility of loss) if the outcomes of an event are not favorable and the individual's subjective feelings of certainty that the result will be unpleasant (Lee, 2009). Dowling and Staelin (1994) defined perceived risk as consumers' perceptions of the uncertainty and negative outcomes of purchasing a product or service. Although several theoretical refinements to

the definition of risk have been attempted, risk remains a subjectively determined expectation of loss by consumers, referring to perceived risk (Cunningham et al., 2005). The notion of perceived risk has been used to explain consumer behavior since the 1960s. Early research (Cunningham, 1967) suggested that risk includes two dimensions: uncertainty and consequences. He classified six types of perceived risk: financial, performance, physical, psychological, social, and time/opportunity. Jacoby and Kaplan (1972) identified five facets of perceived risk: financial risk, performance risk, social risk, physical risk, and psychological risk. Following these, Featherman and Pavlou (2003) proposed a comprehensive model of perceived facets of risk, comprising financial, performance, psychological, social, time, privacy, and overall risks.

As discussed above, most of the scholars claimed that consumers' perceived risk is multifaceted, with various negative outcomes (e.g., financial, performance, social, and psychological loss) of a purchase decision. Dowling (1986) pointed out that different types of negative consequences fit different types of purchases. Park and Tussyadiah (2017) also suggested that perceived risk depends on the situation. In other words, the types of risk need to be identified with consideration of a specific situation encountered by an individual. In the case of travel products such as hotels, flights, packages, or car rental, compared to ordinary retail products, they involve higher levels of risk taking because certain situations could inevitably occur where potential travelers have to change or cancel their tourism products (Fram & McCarthy, 1999). Travel companies charge customer penalties for two reasons: (1) suffer an irrevocable revenue loss due to the nature of travel products, and (2) incur considerable unnecessary transaction costs (Fram & McCarthy, 1999). Likewise, hotel booking and penalty risk are inextricably linked

because of the nature of travel products. However, to date, little research has investigated the perceived financial penalty risk in the hotel booking context. Park and Tussyadiah (2017) examined perceived risk in mobile travel booking and identified the seven facets of perceived risk (time risk, financial risk, performance risk, privacy/security risk, psychological risk, physical risk, and device risk). However, they did not consider penalty risk in the context of booking. Thus, this study suggests that perceived financial penalty risk is pertinent to consumers' purchase decisions in relation to perishable service products such as hotel rooms. This study intends to fill the gap in the literature on perceived risk by examining the perceived financial risk in hotel booking situations. As booking a room online is an inherently risky process and that risk involves financial (monetary) penalty, customers may feel apprehension or anxiety when they make a reservation. Thus, this study recognized this psychological loss as a risk type related to hotel bookings that discourages hotel bookers from paying now. In an e-commerce setting, psychological risk refers to the inability of a customer to see the results of purchasing products, and includes the lack of testability of a product that results in customers' apprehension and anxiety while shopping (Park et al., 2004). In the context of mobile travel booking, Park and Tussyadiah (2017, p. 856) defined psychological risk as "the risk that the selection of mobile services to purchase a travel product will have a negative influence on a traveler's peace of mind or self-perception". Also, as costs precede benefits (i.e., prepayments with free cancellation) in online hotel booking contexts, consumers may spend some time to get the money already pre-paid refunded when unexpected situations happen before their arrival. Even though time is a non-monetary effort and varies from person to person, this study recognizes time as a cost that

consumers pay for hotel rooms, and identifies time loss as an additional risk type associated with hotel bookings. The time risk is defined as “the potential harm of losing time due to a wrong purchase decision and time to search for products and purchase” (Biucky et al., 2017, p.184). To sum up, this study identifies three types of perceived risks in hotel bookings as follows: financial penalty loss, psychological loss and time loss.

One of the advantages of the ‘book now, pay later’ option is that it inherently provides a free cancellation (no penalty risk) aspect because the option allows people not to pay until arrival. A few research operationalized and empirically assessed the impact of free cancellation in the hotel booking context. Chen, Schwartz, and Vargas (2011) investigated cancellation policies and their influence on shaping people’s deal-seeking behavior. They also explored the impact of cancellation fees and deadlines on hotel booking decision making. The findings of their study indicated that the hotel cancellation deadline influenced people’s behavior although the size of the cancellation fee had no statistically significant impact. The current research represents a critical step toward exploring the impact of free cancellations as part of the ‘book now, pay later’ option on customers’ perceived financial, psychological, and time risks factors. This study proposes that because delays in payments (i.e., the ‘book now, pay later’ option) do not require a financial commitment until consumers receive the benefits from their purchase, this option reduces customers’ perceived financial and psychological risks. Thus, the following hypotheses are proposed:

*H3a: Perceived financial risk differs by the time of payment such that perceived financial risk is lower when customers are under the “pay later” than under the “pay now” condition.*

*H3b: Perceived psychological risk differs by the time of payment such that perceived psychological risk is lower when customers are under the “pay later” than under the “pay now” condition.*

*H3c: Perceived time risk differs by the time of payment such that perceived time risk is lower when customers are under the “pay later” than under the “pay now” condition.*

### **The Moderating Role of Temporal Distance**

#### *The Interaction Effects of Delays in Payments and Temporal Distance on Perceived Price and with Purchase Intention*

Time of booking (temporal distance from the date of arrival) is related to customers' booking decision-making process. Chen and Schwartz (2008) empirically tested how and why customers' propensity to book changes over time and the results of their study underscored the importance of the time element in customers' hotel booking decisions. From a different point of view, this study proposes that people's perceptions of room costs (losses) can also be affected by time. Applying the notion of temporal distance to the context of delays in payments, this study puts forward that temporal distance influences consumers' perceived price. In the case of losses (i.e., payments),

when there was a time-delay, people were more likely to prefer a long delay than a short delay (Siemens, 2007). Since delays in payments are considered as gains, the more delays (the longer temporal distance) in payments, the more benefits (the lower perceived price) one perceives. People usually discount future consequences due to the general tendency of wanting immediate gains and avoiding losses. Generally, as the outcome is delayed further into the future, it is discounted more. It can also be explained by the notion of opportunity cost (Hardisty et al, 2013). For example, an individual may defer a \$200 payment for one year. If he or she makes the investment now, it may become more than \$200 in a year's time. Therefore, people with a long temporal distance (i.e., six months before arrival) are likely to perceive significantly less costs when they have the 'pay later' option rather than 'pay now'. In a relatively short temporal distance situation (i.e., booking a room one week before arrival), people's perceived price may not change, even though they have the 'book now, pay later' option. In this case, the current study anticipates no difference in perceived price between 'pay now' and 'pay later'. Based on the findings above, the following hypotheses are proposed:

***H4:** Temporal distance moderates the effect of the time of payment on perceived price such that customers with a longer temporal distance perceive a significantly lower price when they are under the “pay later” than under the “pay now” condition; however, customers with a shorter temporal distance exhibit no such difference in perceived price between the “pay now” and the “pay later” conditions.*



*H5: Temporal distance moderates the effect of the time of payment on purchase intention such that customers with a longer temporal distance have a significantly greater purchase intention when they are under the “pay later” than under the “pay now” condition; however, customers with a shorter temporal distance exhibit no such difference in purchase intention between the “pay now” and the “pay later” conditions*

#### *The Interaction Effects of Delays in Payments and Temporal Distance on Perceived Risks*

As discussed above, there are risks because of the nature of hotel products; normally, advanced bookers in a relatively long temporal distance situation may perceive relatively higher financial penalty, psychological, and time risks because they have more time to have unexpected situations before the check-in date than last-minute bookers. However, consumers with ‘pay later’ may perceive lower risks than consumers with ‘pay now’ in a relatively long temporal distance situation because consumers with ‘pay later’ do not have to make any financial commitment at the time of booking. The current study proposes in a relatively short temporal distance situation, people’s perceived financial, psychological, and time risks may not change, even when they have the ‘book now, pay later’ option because their schedule may be more or less settled. Therefore, in a short temporal distance situation, the current study anticipates no differences in perceived risks between ‘pay now’ and ‘pay later’ (but significant differences in a long temporal distance situation). Thus, the following hypotheses are proposed:

**H6a:** *Temporal distance moderates the effect of the time of payment on perceived financial risk such that customers with a longer temporal distance perceive a significantly higher financial risk when they are under the “pay now” than under the “pay later” condition; however, customers with a shorter temporal distance exhibit no such difference in perceived financial risk between the “pay now” and the “pay later” conditions.*

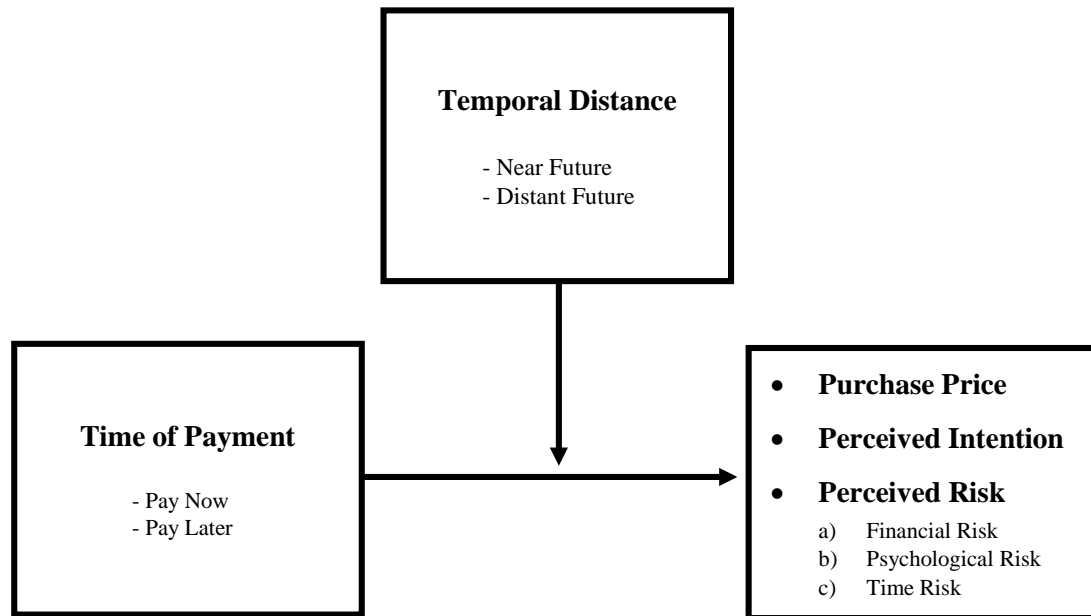
**H6b:** *Temporal distance moderates the effect of the time of payment on perceived psychological risk such that customers with a longer temporal distance perceive a significantly higher psychological risk when they are under the “pay now” than under the “pay later” condition; however, customers with a shorter temporal distance exhibit no such difference in perceived psychological risk between the “pay now” and the “pay later” conditions.*

**H6c:** *Temporal distance moderates the effect of the time of payment on perceived time risk such that customers with a longer temporal distance perceive a significantly higher time risk when they are under the “pay now” than under the “pay later” condition; however, customers with a shorter temporal distance exhibit no such difference in perceived time risk between the “pay now” and the “pay later” conditions.*

Figure 2 presents the conceptual model of the study and illustrates the hypothesized relationships among variables investigated in the study.

**Figure 2**

Conceptual Framework of Study 1: The Effects of Delays in Payments and Temporal Distance on Perceived Price, Perceived Risk, and Purchase Intention



## Methods

### Design and Participants

Study 1 employed a 2 (delays in payments: pay now vs. pay later)  $\times$  2 (temporal distance: near future vs. distant future) between-subjects scenario-based experimental design. The independent variables were delays in payments and temporal distance (moderator), and the dependent variables were perceived price, purchase intention, and perceived risks: a) financial risk, b) psychological risk, and c) time risk. One hundred

eighty participants were recruited through an online crowd-sourcing platform. The respondents were eligible if they were 18 years of age or older and were living in the United States.

## **Procedure**

Participants were first instructed to read the general information and guidelines of this study and complete an online informed consent form. Next, participants were randomly assigned to one of 2 (delays in payments)  $\times$  2 (temporal distance) experimental conditions. In all four experimental conditions, participants were instructed to imagine themselves as a customer planning a vacation and they needed to reserve a hotel room online presented in the scenario. Then, participants were further asked to imagine that they chose a hotel with a nightly room rate of \$139 after searching for the hotels in the place they were going to travel. The hotel used in the scenario was a three-star hotel (upper-midscale) because the upper-midscale is the most dominant room available in both the existing hotel market and the new hotel construction according to U.S. Lodging Industry Overview (Cushman & Wakefield, 2019). The room rate used in the scenario was based on actual market prices at the time of experiment. Participants in the near [far] future condition were asked to imagine that their trip would be in one week [in six months]. According to Sojern's Global Travel Insights report (2016), in the case of North America, the two most frequent lead times (length of time between booking and stay) are "more than 60 days (33%)" and "0-7 days (21%)". Because the "more than 60 days" bracket may sound ambiguous to participants and does not indicate a specific time period, this research adopted the two temporal distance manipulation levels (one week vs.

six months) from previous studies (Choi et al., 2019; Liberman et al., 2002; Stephan et al., 2011) to build a more solid manipulation. This experiment also manipulated the payment time by varying the ‘book now, pay later’ option (pay now vs. pay later). Specifically, the information in the ‘pay now’ condition was described as “Non-refundable (Pay Now)”. On the other hand, the information in the ‘pay later’ condition was described as “Reserve now, pay when you stay (Pay Later)”. Apart from the payment information, everything else was the same between the ‘pay now’ and ‘pay later’ conditions. The scenario was followed by a set of manipulations checks and dependent variable measures. At the end of the survey, participants were asked to answer a series of questions related to demographics.

## **Measures**

Dependent variables included perceived price, purchase intention, and perceived risks. First, participants were asked to respond to four items regarding their perceived price of the hotel’s room rate on a 7-point scale (1 = strongly disagree; 7 = strongly agree), based largely on Ryu and Han’s work (2010): 1) “The room price is reasonable.”, 2) “The room price is reasonable.”, 3) “The room price is appropriate.”, and 4) “The room price is affordable.” Next, participants were instructed to indicate their purchase intention on three items modified from Lien et al.’s work (2015): 1) “After reviewing the information, the probability that I would book this hotel is high.”, 2) “I would consider booking this room at the price shown.”, and 3) “My willingness to book this hotel is high.” All of these items were measured on a 7-point likert scale (1 = strongly disagree; 7 = strongly agree). Finally, the three types of perceived risks were measured using a 7-

point Likert scale (1 = strongly disagree; 7 = strongly agree) adapted from Kim et al. (2015), Park and Tussyadiah (2017), and Park et al., (2004), respectively. Firstly, perceived financial risk was assessed with four items: 1) “Booking the hotel room would be an inappropriate way to spend money.”, 2) “If I booked the hotel room, I would be concerned that the financial investment would not be wise.”, 3) “If I booked the hotel room, I would be concerned that I would not get my money’s worth from the booking.”, and 4) “Booking the hotel room would not provide value for the money I spent.” Secondly, perceived psychological risk was measured with three items: 1) “The thought of booking the room makes me feel uncomfortable.”, 2) “The thought of booking the room gives me a feeling of anxiety.”, and 3) “The thought of booking the room causes me to experience tension.” Lastly, perceived time risk was evaluated with two items: 1) “Booking the hotel room could lead to an inefficient use of my time.” and 2) “Booking the hotel room would take too much time / be a waste of time due to adjustments or refunds.”

The survey also included manipulation checks to make sure that the manipulations for the types of delays in payments and temporal distance performed as intended. For the manipulation check for the delays in payments type, participants were instructed to select the delays in payments message that was shown on the hypothetical OTA website. They were presented with three options: (a) Non-refundable (Pay Now), (b) Reserve now, pay when you stay (Pay Later), and (c) I do not remember. Concerning the temporal distance manipulation, participants were asked to indicate when they would be staying at a hotel from three options: (a) a week from now, (b) six months from now, and (c) I do not remember.

One individual difference variable, annual household income, which may co-vary with the dependent variables, was included as a control variable for this study. Annual household income was measured using a single item, “What is your combined annual household income?” For this item, participants were provided with a 7-point ordinal scale ranging from 1 (\$19,999 or less) to 7 (\$200,000 and over).

## **Results**

### **Sample Profile**

A total of 208 individuals participated in this study via Amazon Mechanical Turk (MTurk), and twenty-two participants who gave invalid responses to the attention filters and six participants who failed the manipulation checks were excluded from the analyses. A total of 180 responses were kept for further analyses as shown in Table 1. The sample size was calculated using G\*Power software version 3.1.9.2 (Institute of Experimental Psychology, Heinrich Heine University, Dusseldorf, Germany) with 90% power and  $\alpha=0.05$ . Among the 180 participants, 53.2% were male and 46.8% were female. A total of 63.7% of participants held a bachelor’s or higher degree, and 32.7% had annual household incomes between \$40,000 and \$79,999. About 49.1% of participants reported that they had stayed at hotels 1-2 times in the last twelve months and 52.2% had made online hotel reservations 1-2 times in the last twelve months (see Table 2).

**Table 1**

Number of Observations per Cell

		Time of Payment		Total
		Pay Now	Pay Later	
Temporal Distance	Near Future	40	51	91
	Distant Future	41	48	89
	Total	81	99	180

**Table 2**Demographic Profile of the Respondents ( $N = 180$ )

Demographic Variables	Frequency	Percent (%)
<i>Gender</i>		
Male	97	53.9
Female	83	46.1
<i>Age</i>		
18–25	4	2.2
26–35	79	43.9
36–45	51	28.3
46–55	28	15.6
56–65	14	7.8
66 and over	4	2.2
<i>Annual Household Income</i>		
\$19,999 or less	17	9.4
\$20,000 - \$39,999	49	27.2
\$40,000 - \$79,999	61	33.9
\$80,000 - \$119,999	34	18.9
\$120,000 - \$159,999	11	6.1
\$160,000 - \$199,999	2	1.1
\$200,000 and over	6	3.3
<i>Education</i>		
High School	39	21.7
Associate's Degree	26	14.4
Bachelor's Degree	80	44.4
Graduate Degree	32	17.8
Other Education/Trade	1	.6
Missing	2	1.1

*Hotel Stay Frequency in the Last Twelve Months*



None	16	8.9
1-2 times	91	50.6
3-4 times	50	27.8
5-6 times	10	5.6
More than 6 times	12	6.7
Missing	1	.6
<i>Online Booking Frequency in the Last Twelve Months</i>		
None	21	11.7
1-2 times	94	52.2
3-4 times	43	23.9
5-6 times	11	6.1
More than 6 times	11	6.1

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### **Manipulation Check**

Before proceeding to the main data analysis, it was necessary to check whether the manipulations for the time of payment and temporal distance performed as intended. Following Song et al. (2019), for the time of booking manipulation, participants were instructed to indicate the payment information that was shown on the OTA website from three options: (1) Non-refundable (Pay Now); (2) Reserve now, pay when you stay (Pay Later); and, (3) I do not remember. All participants except four in the ‘pay now’ condition (95.3%,  $n = 85$ ) selected option (1), and every participant except one in the ‘pay later’ condition (99.0%,  $n = 101$ ) chose option (2). With regard to the temporal distance manipulation, participants were asked to select when their stay would occur from three options: (1) week from now; (2) Six months from now; and, C) I do not remember. All participants in the ‘near future’ condition (100.0 %,  $n = 93$ ) selected option (1), and all participants except three in the ‘distant future’ condition (96.8%,  $n = 93$ ) chose option (2). One participant failed both the time of payment and temporal distance manipulation checks. A total of six participants who failed the manipulation checks were removed from the sample.

## Reliability Test

The reliability of the measures in this study was measured by the reliability analysis using SPSS 21.0. The Cronbach alpha values ranged from 0.871 to 0.955. The Cronbach alpha index ranges from 0 to 1, and the higher alpha value indicates a higher internal consistency. The generally agreed lower limit of the Cronbach's alpha value is 0.70 (Hair et al., 2010). As seen in Table 3, all the variables had acceptable alpha values.

**Table 3**

Measurement Scale Items, Means, Standard Deviations, and Reliability

Items	Mean	Std. Deviation	Cronbach's Alpha if Item Deleted	Cronbach's Alpha
<i>Perceived Price</i>				<i>0.871</i>
1. The room price is inexpensive.	4.29	1.412	.912	
2. The room price is reasonable.	5.31	1.158	.803	
3. The room price is appropriate.	5.30	1.180	.813	
4. The room price is affordable.	5.20	1.367	.808	
<i>Purchase Intention</i>				<i>0.952</i>
1. After reviewing the information, the probability that I would book this hotel is high.	4.96	1.577	.928	
2. I would consider booking this room at the price shown.	5.31	1.480	.954	
3. My willingness to book this hotel is high.	5.03	1.655	.905	
<i>Perceived Financial Risk</i>				<i>0.918</i>
1. Booking the hotel room would be an inappropriate way to spend money.	2.80	1.747	.932	
2. If I booked the hotel room, I would be concerned that the financial investment would not be wise.	3.12	1.912	.880	
3. If I booked the hotel room, I would be concerned that I would not get my money's worth from the booking.	3.04	1.778	.879	
4. Booking the hotel room would not provide value for the money I spent.	2.87	1.702	.879	

<i>Perceived Psychological Risk</i>				0.955
I.	The thought of booking the room makes me feel uncomfortable.	2.94	1.874	.948
II.	The thought of booking the room gives me a feeling of anxiety.	2.85	1.908	.933
III.	The thought of booking the room causes me to experience tension.	2.78	1.775	.923
<i>Perceived Time Risk</i>				0.884
1.	Booking the hotel room could lead to an inefficient use of my time.	2.86	1.752	.
2.	Booking the hotel room would take too much time / be a waste of time due to adjustments or refunds.	2.67	1.736	.

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### Testing of Hypotheses

The primary purpose of Study 1 was to investigate whether temporal distance moderates the effects of delays in payments on perceived price, purchase intention, and perceived risks. Study 1 employed a 2 (delays in payments: pay now vs. pay later)  $\times$  2 (temporal distance: near future vs. distant future) between-subjects full factorial experimental design. To test the hypotheses, this study performed a series of two-way analyses of covariance (ANCOVAs) for each of the dependent variables using delays in payments and temporal distance as independent variables, and annual household income as a covariate.

#### *The Effects of Delays in Payments and Temporal Distance on Perceived Price*

ANCOVA results showed that the main effect of delays in payments was not statistically significant, as shown in Table 4 ( $M_{pay\ now} = 4.97$  vs.  $M_{pay\ later} = 5.08$ ,  $F(1,172) = .459$ ,  $p = .499$ , partial  $\eta^2 = .003$ ). The main effect of temporal distance was

also not statistically significant ( $M_{near\ future} = 4.98$  vs.  $M_{distant\ future} = 5.06$ ,  $F(1,172) = .219$ ,  $p = .640$ , partial  $\eta^2 = .001$ ).

**Table 4**

ANCOVA Results of Perceived Price

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	5.752 <sup>a</sup>	4	1.438	1.215	.306	.027
Intercept	610.591	1	610.591	515.929	< .001	.750
Income	4.788	1	4.788	4.046	.046	.023
DelaysInPayments	.543	1	.543	.459	.499	.003
TemporalDistance	.259	1	.259	.219	.640	.001
DelaysInPayments * TemporalDistance	.036	1	.036	.030	.862	< .001
Error	203.558	172	1.183			
Total	4681.938	177				
Corrected Total	209.310	176				

a. R Squared = .027 (Adjusted R Squared = .005)

The ANCOVA results also showed that there was no statistically significant interaction between time of payment and temporal distance on perceived price, while controlling for income ( $F(1, 172) = 0.03$ ,  $p = .862$ , partial  $\eta^2 < .001$ ). Taken together, these results do not support H1 and H4. Table 5 presents the cell means and standard errors.

**Table 5**

Means, Adjust Means, Standard Deviations and Standard Errors of Perceived Price

	Pay Now		Pay Later	
	Near Future	Distant Future	Near Future	Distant Future
<i>M</i>	4.929	4.988	5.034	5.133
(SD)	(1.042)	(1.106)	(0.998)	(1.230)
<i>M<sub>adj</sub></i>	4.942	4.990	5.025	5.130
(SE)	(0.174)	(0.172)	(0.152)	(0.159)

*The Effects of Delays in Payments and Temporal Distance on Purchase Intention*

To examine the effects of delays in payments and temporal distance on consumers' purchase intention, ANCOVA was performed with income as a covariate. As predicted, the results indicated that the main effect of delays in payments was statistically significant ( $F(1,175) = 27.79, p < .001, \text{partial } \eta^2 = .137$ ; see Table 6). Participants' purchase intention in the 'pay later' group was significantly higher than that in the 'pay now' group ( $M_{\text{pay now}} = 4.50$  vs.  $M_{\text{pay later}} = 5.57$ ). The main effect of temporal distance was also statistically significant ( $F(1,175) = 2.94, p < .10, \text{partial } \eta^2 = .017$ ). Participants in the 'near future' condition had a significantly higher level of purchase intention than their counterparts in the 'distant future' condition ( $M_{\text{near future}} = 5.21$  vs.  $M_{\text{distant future}} = 4.86$ ).

**Table 6**

## ANCOVA Results of Purchase Intention

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	86.776 <sup>a</sup>	4	21.694	11.691	< .001	.211
Intercept	539.041	1	539.041	290.484	< .001	.624
Income	16.056	1	16.056	8.652	.004	.047
DelaysInPayments	51.561	1	51.561	27.786	< .001	.137
TemporalDistance	5.451	1	5.451	2.938	.088	.017
DelaysInPayments * TemporalDistance	13.519	1	13.519	7.285	.008	.040
Error	324.742	175	1.856			
Total	5062.463	180				
Corrected Total	411.518	179				

a. R Squared = .211 (Adjusted R Squared = .193)

The results also revealed that there was a statistically significant interaction between time of payment and temporal distance on purchase intention, while controlling for income ( $F(1, 175) = 7.29, p < .05, \text{partial } \eta^2 = .040$ ). Participants with a longer temporal distance had a significantly greater purchase intention in the ‘pay later’ condition compared to the ‘pay now’ condition ( $M_{\text{pay now-distant future}} = 4.05$  vs.  $M_{\text{pay later-distant future}} = 5.67$ ). However, participants with a shorter temporal distance exhibited no such difference in purchase intention ( $M_{\text{pay now-near future}} = 4.95$  vs.  $M_{\text{pay later-near future}} = 5.47$ ). Taken together, these results support H2 and H5. Table 7 presents the cell means and standard errors and Table 8 shows pairwise comparisons for each group. This interaction is visualized in Figure 3.

**Table 7**

Means, Adjust Means, Standard Deviations and Standard Errors of Purchase Intention

	Pay Now		Pay Later	
	Near Future	Distant Future	Near Future	Distant Future
<i>M</i>	4.925	4.041	5.490	5.674
(SD)	(1.608)	(1.572)	(1.142)	(1.271)
<i>M<sub>adj</sub></i>	4.946	4.045	5.471	5.673
(SE)	(0.216)	(0.213)	(0.191)	(0.197)

**Table 8**

Pairwise Comparisons of Purchase Intention

(I) Cell	(J) Cell	Mean Difference (I-J)	Std. Error	Sig. <sup>b</sup>
Pay Now – Near Future	Pay Now – Distant Future	.901*	.303	.020
	Pay Later – Near Future	-.526	.288	.418
	Pay Later – Distant Future	-.727	.292	.082
Pay Now – Distant Future	Pay Now – Near Future	-.901*	.303	.020
	Pay Later – Near Future	-1.427*	.286	< .001
	Pay Later – Distant Future	-1.628*	.290	< .001
Pay Later – Near Future	Pay Now – Near Future	.526	.288	.418
	Pay Now – Distant Future	1.427*	.286	< .001
	Pay Later – Distant Future	-.201	.274	1.000
Pay Later – Distant Future	Pay Now – Near Future	.727	.292	.082
	Pay Now – Distant Future	1.628*	.290	< .001
	Pay Later – Near Future	.201	.274	1.000

Notes: Based on estimated marginal means

\*. The mean difference is significant at the .05 level.

b. Adjustment for multiple comparisons: Bonferroni.

**Figure 3**

*Interaction Effect of Delays in Payments and Temporal Distance on Purchase Intention*



*The Effects of Delays in Payments and Temporal Distance on Perceived Financial Risk*

This study included three types of perceived risks: financial risk, psychological risk, and time risk. ANCOVA test was conducted to investigate the effects of delays in payments and temporal distance on perceived financial risk. The ANCOVA results revealed that the main effect of delays in payments was significant ( $F(1,175) = 38.37, p < .001, \text{partial } \eta^2 = .180$ ), indicating that participants in the ‘pay now’ condition perceived a significantly higher level of financial risk than their counterparts in the ‘pay later’ condition ( $M_{\text{pay now}} = 3.64$  vs.  $M_{\text{pay later}} = 2.39$ ). The main effect of temporal distance was also statistically significant ( $F(1,175) = 5.72, p < .05, \text{partial } \eta^2 = .032$ ). Participants in the ‘distant future’ condition perceived a significantly higher level of



financial risk than their counterparts in the ‘near future’ condition ( $M_{near\ future} = 2.77$  vs.  $M_{distant\ future} = 3.25$ ). The ANCOVA results are presented in Table 9.

**Table 9**  
ANCOVA Results of Perceived Financial Risk

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	139.731 <sup>a</sup>	4	34.933	19.410	< .001	.307
Intercept	22.101	1	22.101	12.280	.001	.066
Income_R	33.084	1	33.084	18.382	< .001	.095
DelaysInPayments	69.053	1	69.053	38.367	< .001	.180
TemporalDistance	10.288	1	10.288	5.716	.018	.032
DelaysInPayments * TemporalDistance	27.850	1	27.850	15.474	< .001	.081
Error	314.961	175	1.800			
Total	2029.531	180				
Corrected Total	454.692	179				

a. R Squared = .307 (Adjusted R Squared = .291)

The ANCOVA results also revealed a significant delays in payments  $\times$  temporal distance interaction effect on perceived financial risk, while controlling for income ( $F(1, 175) = 15.47, p < .001$ , partial  $\eta^2 = .081$ ). In the “distant future” condition, there was a significant difference between ‘pay now’ and pay later’ ( $M_{pay\ now-distant\ future} = 4.27$  vs.  $M_{pay\ later-distant\ future} = 2.24$ ). However, in the “near future” condition, there was no such difference in perceived financial risk ( $M_{pay\ now-near\ future} = 3.00$  vs.  $M_{pay\ later-near\ future} = 2.55$ ). These results support H3a and H6a. Table 10 presents the cell means and standard

errors and Table 11 shows pairwise comparisons for each group. This interaction is visualized in Figure 4.

**Table 10**  
Means, Adjust Means, Standard Deviations and Standard Errors of Perceived Financial Risk

	Pay Now		Pay Later	
	Near Future	Distant Future	Near Future	Distant Future
<i>M</i>	3.031	4.279	2.520	2.234
(SD)	(1.473)	(1.529)	(1.308)	(1.340)
<i>M<sub>adj</sub></i>	3.001	4.273	2.546	2.236
(SE)	(0.212)	(0.210)	(0.188)	(0.194)

**Table 11**  
Pairwise Comparisons of Perceived Financial Risk

(I) Cell	(J) Cell	Mean Difference (I-J)	Std. Error	Sig. <sup>b</sup>
Pay Now – Near Future	Pay Now – Distant Future	-1.272*	.298	< .001
	Pay Later – Near Future	.455	.284	.663
	Pay Later – Distant Future	.765	.287	.051
Pay Now – Distant Future	Pay Now – Near Future	1.272*	.298	< .001
	Pay Later – Near Future	1.727*	.282	< .001
	Pay Later – Distant Future	2.037*	.285	< .001
Pay Later – Near Future	Pay Now – Near Future	-.455	.284	.663
	Pay Now – Distant Future	-1.727*	.282	< .001
	Pay Later – Distant Future	.311	.270	1.000
Pay Later – Distant Future	Pay Now – Near Future	-.765	.287	.051
	Pay Now – Distant Future	-2.037*	.285	< .001
	Pay Later – Near Future	-.311	.270	1.000

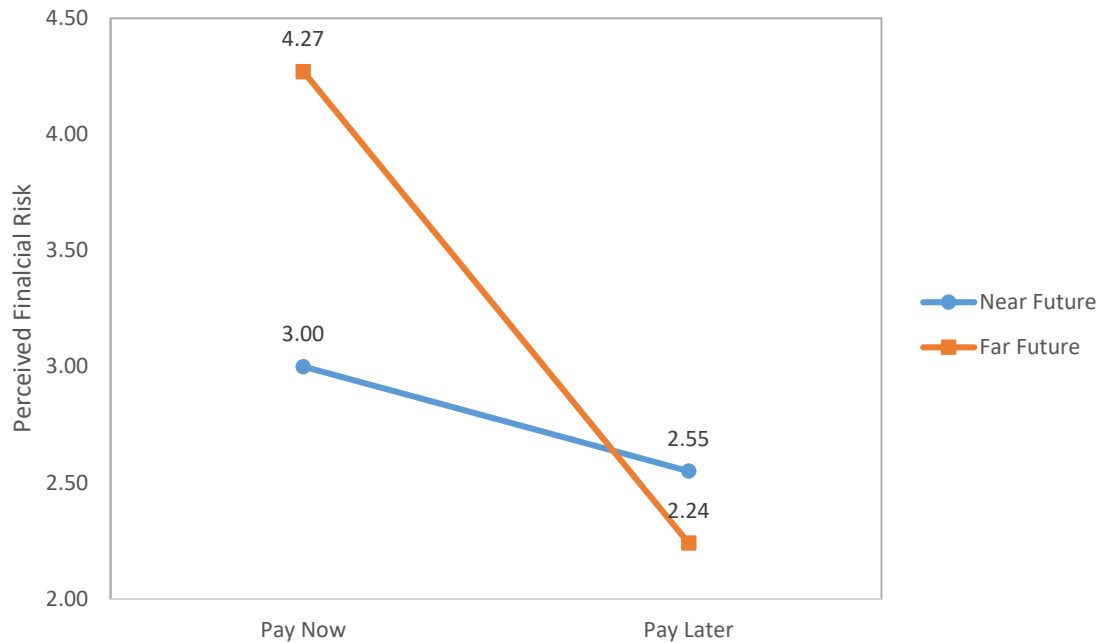
Notes: Based on estimated marginal means

\*. The mean difference is significant at the .05 level.

b. Adjustment for multiple comparisons: Bonferroni.

**Figure 4**

Interaction Effect of Delays in Payments and Temporal Distance on Perceived Financial Risk



*The Effects of Delays in Payments and Temporal Distance on Perceived Psychological Risk*

To investigate the effects of delays in payments and temporal distance on perceived psychological risk, ANCOVA test was performed with income as a covariate. The ANCOVA results revealed that the main effect of delays in payments was statistically significant ( $F(1,174) = 43.37, p < .001, \text{partial } \eta^2 = .199$ ; see Table 12). Participants' psychological risk in the 'pay now' group was significantly higher than the 'pay later' group ( $M_{\text{pay now}} = 3.66$  vs.  $M_{\text{pay later}} = 2.19$ ). The main effect of temporal distance was also statistically significant ( $F(1,174) = 3.88, p < .05, \text{partial } \eta^2 = .022$ ), indicating that participants in the 'distant future' condition perceived a significantly

higher level of psychological risk than their counterparts in the ‘near future’ condition ( $M_{near\ future} = 2.71$  vs.  $M_{distant\ future} = 3.15$ ).

**Table 12**

ANCOVA Results of Perceived Psychological Risk

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	175.784 <sup>a</sup>	4	43.946	19.833	< .001	.313
Intercept	11.535	1	11.535	5.206	.024	.029
Income_R	45.990	1	45.990	20.756	< .001	.107
DelaysInPayments	95.884	1	95.884	43.273	< .001	.199
TemporalDistance	8.604	1	8.604	3.883	.050	.022
DelaysInPayments * TemporalDistance	23.225	1	23.225	10.482	.001	.057
Error	385.546	174	2.216			
Total	2025.936	179				
Corrected Total	561.330	178				

a. R Squared = .313 (Adjusted R Squared = .297)

As predicted, there was a statistically significant interaction between time of payment and temporal distance on perceived psychological risk, while controlling for income ( $F(1, 174) = 10.48$ ,  $p < .001$ , partial  $\eta^2 = .057$ ). When temporal distance was long, participants perceived a significantly higher psychological risk in the ‘pay now’ condition compared to the ‘pay later’ condition ( $M_{pay\ now-distant\ future} = 4.24$  vs.  $M_{pay\ later-distant\ future} = 2.05$ ). However, when temporal distance was short, participants exhibited no such difference in perceived psychological risk ( $M_{pay\ now-near\ future} = 3.08$  vs.  $M_{pay\ later-near\ future} = 2.33$ ). Taken together, these results support H3b and H6b. Table 13 presents the cell means and standard errors. Table 14 shows pairwise comparisons for each group. This interaction is visualized in Figure 5.

**Table 13**

Means, Adjust Means, Standard Deviations and Standard Errors of Perceived

Psychological Risk

	Pay Now		Pay Later	
	Near Future	Distant Future	Near Future	Distant Future
<i>M</i>	3.117	4.252	2.294	2.048
(SD)	(1.768)	(1.812)	(1.383)	(1.342)
<i>M<sub>adj</sub></i>	3.079	4.244	2.331	2.048
(SE)	(0.236)	(0.232)	(0.211)	(0.215)

**Table 14**

Pairwise Comparisons of Perceived Psychological Risk

(I) Cell	(J) Cell	Mean Difference (I-J)	Std. Error	Sig. <sup>b</sup>
Pay Now – Near Future	Pay Now – Distant Future	-1.165*	.331	.003
	Pay Later – Near Future	.748	.316	.115
	Pay Later – Distant Future	1.031*	.319	.009
Pay Now – Distant Future	Pay Now – Near Future	1.165*	.331	.003
	Pay Later – Near Future	1.912*	.314	< .001
	Pay Later – Distant Future	2.196*	.317	< .001
Pay Later – Near Future	Pay Now – Near Future	-.748	.316	.115
	Pay Now – Distant Future	-1.912*	.314	< .001
	Pay Later – Distant Future	.284	.301	1.000
Pay Later – Distant future	Pay Now – Near Future	-1.031*	.319	.009
	Pay Now – Distant Future	-2.196*	.317	< .001
	Pay Later – Near Future	-.284	.301	1.000

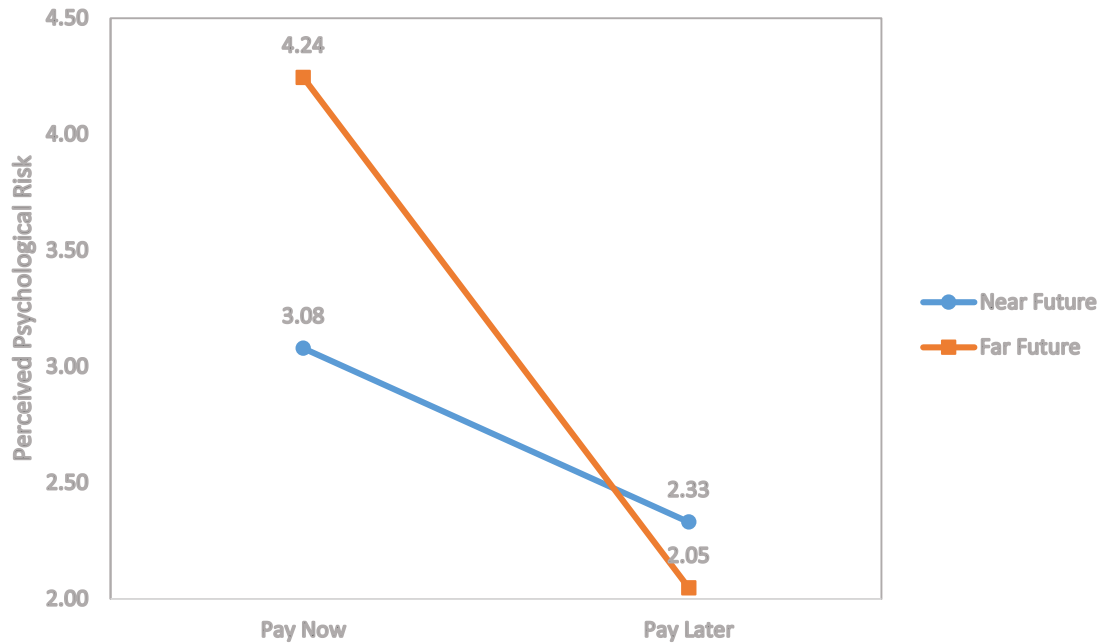
Notes: Based on estimated marginal means

\*. The mean difference is significant at the .05 level.

b. Adjustment for multiple comparisons: Bonferroni.

**Figure 5**

Interaction Effect of Delays in Payments and Temporal Distance on Perceived Psychological Risk



*The Effects of Delays in Payments and Temporal Distance on Perceived Time Risk*

ANCOVA test was performed to examine the effects of delays in payments and temporal distance on perceived time risk. As shown in Table 15, ANCOVA results revealed that the main effect of delays in payments was statistically significant ( $F(1,174) = 24.82, p < .001, \text{partial } \eta^2 = .125$ ). In the ‘pay now’ condition, participants perceived a significantly higher level of time risk than their counterparts in the ‘pay later’ condition ( $M_{\text{pay now}} = 3.38$  vs.  $M_{\text{pay later}} = 2.27$ ). Contrary to the prediction, the main effect of temporal distance was not statistically significant ( $M_{\text{near future}} = 2.68$  vs.  $M_{\text{distant future}} = 2.97, F(1,174) = 3.88, p = .193, \text{partial } \eta^2 = .010$ ).

**Table 15**

## ANCOVA Results of Perceived Time Risk

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	102.348 <sup>a</sup>	4	25.587	11.662	< .001	.211
Intercept	16.181	1	16.181	7.375	.007	.041
Income_R	32.752	1	32.752	14.928	< .001	.079
DelaysInPayments	54.448	1	54.448	24.816	< .001	.125
TemporalDistance	3.749	1	3.749	1.709	.193	.010
DelaysInPayments * TemporalDistance	9.062	1	9.062	4.130	.044	.023
Error	381.761	174	2.194			
Total	1858.500	179				
Corrected Total	484.109	178				

a. R Squared = .211 (Adjusted R Squared = .193)

The ANCOVA results showed a significant interaction effect between delays in payments and temporal distance on perceived time risk, while controlling for income ( $F(1, 174) = 4.13, p < .05, \text{partial } \eta^2 = .023$ ). In the long temporal distance condition, there was a significant difference in perceived time risk between ‘pay now’ and pay later’ ( $M_{\text{pay now-distant future}} = 3.75$  vs.  $M_{\text{pay later-distant future}} = 2.19$ ). However, in the short temporal distance condition, there was no such difference in perceived time risk ( $M_{\text{pay now-near future}} = 3.00$  vs.  $M_{\text{pay later-near future}} = 2.35$ ). These results support H3c and H6c. Table 16 presents the cell means and standard errors and Table 17 shows pairwise comparisons for each group. This interaction is visualized in Figure 6.

**Table 16**

Means, Adjust Means, Standard Deviations and Standard Errors of Perceived Time Risk

	Pay Now		Pay Later	
	Near Future	Distant Future	Near Future	Distant Future
<i>M</i>	3.038	3.756	2.310	2.188
(SD)	(1.722)	(1.689)	(1.439)	(1.331)
<i>M<sub>adj</sub></i>	3.004	3.747	2.347	2.185
(SE)	(0.234)	(0.231)	(0.210)	(0.214)

**Table 17**

Pairwise Comparisons of Perceived Time Risk

(I) Cell	(J) Cell	Mean Difference (I-J)	Std. Error	Sig. <sup>b</sup>
Pay Now – Near Future	Pay Now – Distant Future	-.743	.329	.151
	Pay Later – Near Future	.657	.315	.230
	Pay Later – Distant Future	.819	.317	.064
Pay Now – Distant Future	Pay Now – Near Future	.743	.329	.151
	Pay Later – Near Future	1.400*	.312	< .001
	Pay Later – Distant Future	1.562*	.315	< .001
Pay Later – Near Future	Pay Now – Near Future	-.657	.315	.230
	Pay Now – Distant Future	-1.400*	.312	< .001
	Pay Later – Distant Future	.162	.299	1.000
Pay Later – Distant Future	Pay Now – Near Future	-.819	.317	.064
	Pay Now – Distant Future	-1.562*	.315	< .001
	Pay Later – Near Future	-.162	.299	1.000

Notes: Based on estimated marginal means

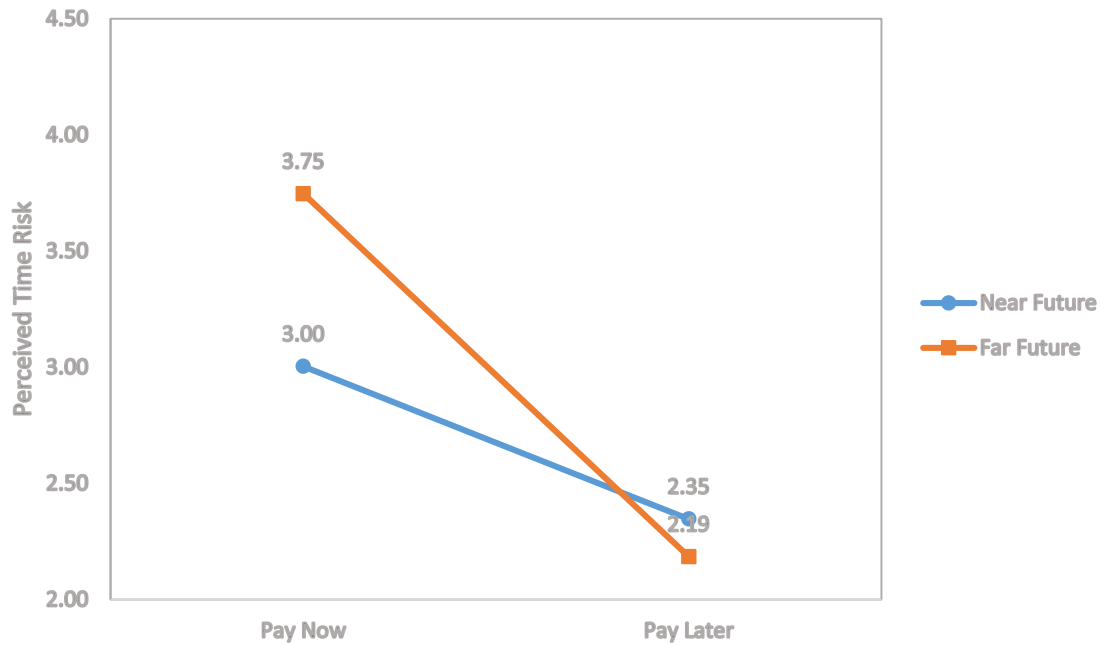
\*. The mean difference is significant at the .05 level.

b. Adjustment for multiple comparisons: Bonferroni.



**Figure 6**

Interaction Effect of Delays in Payments and Temporal Distance on Perceived Time Risk



## Discussion

The purposes of Study 1 were 1) to examine whether delays in payments (i.e., pay later) influence consumers' perceived price, purchase intention, and perceived risks; and 2) to investigate whether temporal distance moderates such relationships. The results provide meaningful insights into the growing phenomenon of 'pay later'. The findings of Study 1 complement the previous literature of delays in payments, which has rarely investigated the influence in a hospitality and tourism context, by examining not only the behavioral aspects prior research mainly focused on but also perceived risks. This section discusses the three main findings of the study.

First, Study 1 found significant impacts of delays in payments on purchase intention and perceived risks. The study's findings indicate that individuals perceive significantly lower financial, psychological, and time risks, and greater purchase intention when a hotel offers the 'pay later' option. In terms of purchase intention, this finding is consistent with the notion of transaction de-coupling in a retail setting (Prelec & Loewenstein, 1998). The notion suggests that when transaction benefits temporally precede transaction costs (i.e., 'pay later'), the actual cost of the transaction is less likely to be perceived. Study 1 also found significant effects of temporal distance on purchase intention and perceived risks, indicating that people have less purchase intention and perceive higher financial and psychological risks when the travel time is in the distant future. An interesting finding of Study 1 is that, contrary to perceived financial and psychological risks, temporal distance does not influence consumers' perceived time risk. This finding suggests that temporal distance may not necessarily affect perceived non-monetary risk (i.e., perceived time risk: a waste of time due to adjustments or refunds) as opposed to monetary risk.

Second, the study extends the literature by demonstrating temporal distance moderates the effects of delays in payments on purchase intention and perceived financial, psychological, and time risks. It turns out that the effect of delays in payments is limited to situations where temporal distance is long. Perceived risks and purchase intention are not affected by delays in payments when temporal distance is short. These findings suggest that 'pay later' may not necessarily decrease consumers' perceived risks and increase purchase intention when the travel time is in the relatively near future. This

finding supports the notion that the more delays in payments, the more benefits one perceives (Siemens, 2007).

Lastly, interestingly, the results reveal that there is no significant difference in perceived price between the 'pay now' and 'pay later' conditions. These findings suggest that delays in payments may not necessarily affect consumers' perceived price. This is in contrast to the previous finding that delayed payments lead to less perceived costs (Ainslie, 2001). One plausible explanation for the null effect could be due to the fact that price is reference-dependent. If a hotel offers both the 'pay now' and 'pay later' options at the same price, consumers' perceived price for each option may be significantly different because price perceptions and judgments are relative. Furthermore, the results indicated that temporal distance has no significant effect on people's perceived price. Time is one of the most crucial factors in revenue-optimizing mechanisms, and this time-based pricing plays an important role in the hotel industry (Phillips, 2005). This time-based price differentiation is closely related to demand. The lack of support for the main effect of temporal distance suggests that consumers' price perception may not differ by the time of booking in situations where they do not recognize the demand-supply status of the hotel they try to book.

## CHAPTER IV

### STUDY 2: THE EFFECTS OF TEMPORAL DISTANCE AND INCENTIVE TYPES ON PAYMENT OPTION PREFERENCES AND PERCEIVED RISKS

#### **Overview**

As reported in Chapter 3, Study 1 investigated whether delays in payments ('pay now' vs. 'pay later') influences consumers' perceived price, purchase intention, and perceived risks, and examined whether temporal distance between the time of booking and actual arrival (near future vs. distant future) influences such relationships. Study 1's 'pay now' option was a payment option offered without any benefits or incentives, which means the 'pay now' room had the same price as the 'pay later' room to examine the pure effects of delays in payments. However, given the hotel industry's practice, many hotels set a low price for the 'pay now' option and it is unknown whether consumers' behaviors change if the 'pay now' option is offered with incentives, or the 'pay later' option requires a higher cost for delaying payments based on temporal distance.

To cover this different hotel booking situation, in Chapter 4, Study 2 shifts the focus to the other types of the 'pay now' options (i.e., with incentives) that service providers utilize to entice consumers to pay the full cost of a room at the time of purchase

(i.e., immediate payment). Many service providers use incentives to change consumers' purchase decisions and, therefore, it is important for service providers to recognize which incentive types can yield better effects. However, the previous findings on the effects of incentive types on consumers' preferences are diverse, and which incentive type is more effective according to temporal distance remains unknown. Thus, Study 2 attempts to examine what types of payment options ('pay now' with non-monetary incentive vs. 'pay now' with monetary incentive vs. 'pay later') are preferable when the temporal distance between booking and arrival is relatively near vs. far. Also, the study investigates how the payment options and temporal distance jointly influence consumers' perceived financial, psychological, and time risks.

This chapter includes four sections. In the first section, hypotheses development with a review of the literature is presented. The second section introduces the methods used in Study 2, including the experiment design, procedure, and measures. In the next section, data analysis and results are presented. This chapter concludes with discussions about the results of the study.

## **Hypotheses Development**

### **The Effects of Temporal Distance on Payment Choice**

As discussed in Chapter 2, construal level theory posits that the temporal distance of events systematically impacts how events are evaluated (Trope & Liberman, 2003, 2010). When events happen in the distant future, individuals construe them in terms of abstract, general, superordinate, and decontextualized features that deliver the essence of

the information (a high level construal). In contrast, when events happen in the near future, people are more likely to construe them in terms of concrete, specific, subordinate, and contextual features that deliver details of the information (a low level construal). According to Liberman and Trope (1998), people who construe an event in abstract, high-level (vs. concrete, low-level) ways also weigh ideals and values (vs. contextual details) more heavily and give more weight to desirability (vs. feasibility).

Applying this logic to the hotel booking context, when the travel time is in the distant future, consumers construe the booking decision at a high construal level. At this point, if a hotel offers non-monetary incentives (i.e., high-level construed messages) for the ‘pay now’ option, because of congruence between the temporal distance and the construed level of the incentive type, non-monetary incentives are expected to produce better effects than monetary incentives that are low-level construed and mismatched with people’s manner of construing the hotel booking. This long temporal distance from arrival may lead to the focus of desirability attributes (i.e., the desire to have more services such as complimentary breakfast or ‘pay later’, or to match personal preferences such as an ocean-side view). On the contrary, when the travel time is in the near future, people construe the hotel booking at a low-level. At this time, if the hotel provides monetary incentives for the ‘pay now’ option, they would likely produce greater impacts than mismatched, non-monetary incentives, because monetary incentives match the way people mentally represent the booking. This short temporal distance from arrival results in the weighting of feasibility attributes (i.e., price discount). In the case of the ‘pay later’ option, delays in costs (payments) are considered as gains (Kahneman & Tversky, 1979). Although this option does not offer any incentives, it may be regarded as a high-

level construed message because the option places the emphasis on ‘gains’, which indicate the desirability of an event’s outcome (Chou & Lien, 2012). Therefore, when the travel time is in the distant future, because of the construal matching effect, the ‘pay later’ option is likely to generate greater persuasive effectiveness rather than when the travel time is in the near future. Based on these suppositions, the following hypotheses are proposed:

***H7.** There is a significant association between temporal distance and payment choice such that:*

***H7a.** A significantly larger proportion of people in the “near future” condition will choose the ‘pay now’ with monetary incentive option than people in the “distant future” condition.*

***H7b.** A significantly larger proportion of people in the “distant future” condition will choose the ‘pay now’ with non-monetary incentive option than people in the “near future” condition.*

***H7c.** A significantly larger proportion of people in the “distant future” condition will choose the ‘pay later’ option than people in the “near future” condition.*

## **The Interaction Effects of Temporal Distance and Payment Options on Perceived Risks**

As discussed in Study 1, there are inherent risks for hotel products; generally, when temporal distance between booking and check-in is relatively long, people may perceive relatively higher financial, psychological, and time risks because they have more time to have unexpected situations before their actual arrival than people who with a relatively short temporal distance from check-in. Thus, notwithstanding the monetary or non-monetary incentive, people may perceive higher risks from the ‘pay now’ options than the ‘pay later’ option in relatively long temporal distance situations because this temporal distance intensifies perceived risks of the ‘pay now’ options. Due to this fact, Study 2 anticipates that there will be no significant difference in perceived risks between the two ‘pay now’ options (i.e., the ‘pay now’ with non-monetary incentive and ‘pay now’ with monetary incentive options). In contrast, in a relatively short temporal distance situation, this temporal distance reduces people’s perceived financial, psychological, and time risks of the ‘pay now’ options regardless of the incentive type and also attenuates the impact of the ‘pay later’ option on people’s perceived risks. Therefore, there may be no significant difference in perceived risks between these three payment options, and the following hypotheses are proposed:

***H8a.** Temporal distance moderates the effect of payment options on perceived financial risk such that when temporal distance is relatively long, people perceive a significantly higher financial risk from the ‘pay now’ with non-monetary and*



*monetary incentive options than the ‘pay later’ option; however, people with a shorter temporal distance exhibit no such difference in perceived financial risk.*

***H8b.** Temporal distance moderates the effect of payment options on perceived psychological risk such that when temporal distance is relatively long, people perceive a significantly higher psychological risk from the ‘pay now’ with non-monetary and monetary incentive options than the ‘pay later’ option; however, people with a shorter temporal distance exhibit no such difference in perceived psychological risk.*

***H8c.** Temporal distance moderates the effect of payment options on perceived time risk such that when temporal distance is relatively long, people perceive a significantly higher time risk from the ‘pay now’ with non-monetary and monetary incentive options than the ‘pay later’ option; however, people with a shorter temporal distance exhibit no such difference in perceived time risk.*

## **Methods**

### **Design and Participants**

Study 2 used a 2 (temporal distance: near future vs. distant future) × 3 (payment options: pay now with non-monetary incentive vs. pay now with monetary incentive vs. pay later) repeated measures scenario-based experimental design. The temporal distance factor was virtually identical to the one described in Study 1, and it was a between-subjects factor. The payment options was a within-subjects factor that included three types of payment options. One of the main differences between Study 1 and Study 2 was

that Study 1 provided only one payment option at a time (either ‘pay now’ or ‘pay later’) and there were not any incentives for ‘pay now’ (or any fees for ‘pay later’). Study 2 presented participants with three payment options for the same room at the same time, and included incentives for ‘pay now’. One hundred forty-four participants were recruited through an online crowd-sourcing platform, and the respondents were eligible if they were 18 years of age or older and were living in the United States.

## **Procedure**

Participants were first instructed to read the general information and guidelines of this experiment and complete an online informed consent form. Participants were randomly assigned to one of the two (temporal distance: near future vs. distant future) experimental conditions. In both experimental conditions, participants were instructed to imagine themselves as a customer booking a hotel room online, and they were planning a single night solo leisure trip to New York City in the scenario. Consistent with Study 1, Study 2 manipulated temporal distance by the time of the trip. Specifically, participants in the near [distant] future condition were asked to imagine that their trip would be in one week [in six months]. The temporal distance manipulation (one week vs. six months) was adopted from the previous work (Choi, Bolton, and Grishin, 2019; Liberman, Sagristano, & Trope, 2002; Stephan, Liberman, & Trope, 2011). Then, participants were further asked to imagine that they chose a three-star hotel with a nightly room rate of \$ 189 after searching for the hotels in the place they were going to travel. The room rate used in the scenario was based on actual market prices at the time of experiment. Unlike Study 1, in the scenario of Study 2, the hotel provided three different payment options for

the same room based on the time of payment – (1) pay now with surprise upgrade (non-monetary incentive for ‘pay now’), (2) pay now with surprise rebate (monetary incentive for ‘pay now’) and (3) pay later. The study hid the amount of incentives (e.g., surprise upgrade or surprise rebate) to avoid potential bias. Apart from the time of the trip, everything else was the same between the ‘near future’ and ‘distant future’ conditions. After being exposed to the hotel’s information, participants were asked to complete a manipulation check. Next, respondents were asked to choose one payment option they preferred out of the three given payment options (one-shot decision) and further asked to evaluate their perceived risks (i.e., perceived financial, psychological, and time risks) for each payment option (repeated evaluations). At the end of the experiment, participants were asked to answer a series of questions related to demographics.

## **Measures**

First, to test participants’ choice among three payment options, participants were asked to choose one payment option they would prefer (“You have decided to choose this hotel. What option would you choose?”). Next, the three types of perceived risks for each payment option were measured using a 7-point Likert scale (1 = strongly disagree; 7 = strongly agree) adapted from Kim et al. (2015), Park and Tussyadiah (2017), and Park et al. (2004), respectively. Firstly, perceived financial risk was assessed with four items: 1) “Booking the hotel room with the [‘pay now’ with surprise upgrade/ ‘pay now’ with surprise rebate/ ‘pay later’] option would be an inappropriate way to spend money.”, 2) “If I booked the hotel room with the [‘pay now’ with surprise upgrade/ ‘pay now’ with surprise rebate/ ‘pay later’] option, I would be concerned that the financial investment

would not be wise.”, 3) “ If I booked the hotel room with the [‘pay now’ with surprise upgrade/ ‘pay now’ with surprise rebate/ ‘pay later’] option, I would be concerned that I would not get my money’s worth from the booking.”, and 4) “Booking the hotel room with the [‘pay now’ with surprise upgrade/ ‘pay now’ with surprise rebate/ ‘pay later’] option would not provide value for the money I spent.” Secondly, perceived psychological risk was measured with three items: 1) “The thought of booking the room with the [‘pay now’ with surprise upgrade/ ‘pay now’ with surprise rebate/ ‘pay later’] option makes me feel uncomfortable.”, 2) “The thought of booking the room with the [‘pay now’ with surprise upgrade/ ‘pay now’ with surprise rebate/ ‘pay later’] option gives me a feeling of anxiety.”, and 3) “The thought of booking the room with the [‘pay now’ with surprise upgrade/ ‘pay now’ with surprise rebate/ ‘pay later’] option causes me to experience tension.” Lastly, perceived time risk was evaluated with two items: 1) “Booking the hotel room with the [‘pay now’ with surprise upgrade/‘pay now’ with surprise rebate/ ‘pay later’] option could lead to an inefficient use of my time.” and 2) “Booking the hotel room with the [‘pay now’ with surprise upgrade/ ‘pay now’ with surprise rebate/ ‘pay later’] option would take too much time / be a waste of time due to adjustments or refunds.”

This experiment also included a manipulation check to ascertain that the manipulation for temporal distance performed as intended. Specifically, participants were asked to indicate when their stay would occur from three options: (a) one week from now; (b) six months from now; and, (c) I do not remember.

## **Data Analysis Methods**

All data collected were analyzed using the Statistical Packages for Social Sciences (SPSS) 21.0 for Windows. To investigate the associations between temporal distance and payment option choice, the chi-square tests were performed. Repeated measures ANOVAs (analysis of variances) with one between-subjects factor (temporal distance) and one within-subjects factor (payment options) were implemented to examine the differences in perceived risks between the experimental conditions.

## **Results**

### **Sample Profile**

A total of 168 individuals participated in Study 2 through Amazon Mechanical Turk (MTurk). Twenty-one participants who gave invalid responses to the attention filter and three participants who failed the manipulation check were dropped from the study. The final sample, therefore, consisted of 144 participants. The sample size was calculated using G\*Power software version 3.1.9.2 (Institute of Experimental Psychology, Heinrich Heine University, Dusseldorf, Germany) with 80% power and  $\alpha=0.05$ . Among the 144 participants, 60.4% were male and 39.6% were female. A total of 64.7% of participants held a bachelor's or higher degree, and 40.3% had annual household incomes between \$40,000 and \$79,999. About 45.8% of participants reported that they had stayed at hotels 1-2 times in the last twelve months and 44.4% had made

online hotel reservations 1-2 times in the last twelve months. Table 18 summarizes the demographic characteristics of the participants.

**Table 18**  
Demographic Profile of the Respondents ( $N = 144$ )

Demographic Variables	Frequency	Percent (%)
<i>Gender</i>		
Male	87	60.4
Female	57	39.6
<i>Age</i>		
18–25	4	2.8
26–35	62	43.1
36–45	49	34.0
46–55	15	10.4
56–65	13	9.0
66 and over	1	0.7
<i>Annual Household Income</i>		
\$19,999 or less	18	12.5
\$20,000 - \$39,999	35	24.3
\$40,000 - \$79,999	58	40.3
\$80,000 - \$119,999	21	14.6
\$120,000 - \$159,999	8	5.6
\$160,000 - \$199,999	0	0.0
\$200,000 and over	3	2.1
Missing	1	0.7
<i>Education</i>		
High School	30	20.8
Associate's Degree	21	14.6
Bachelor's Degree	63	43.8
Graduate Degree	26	18.1
Other Education/Trade	2	1.4
Missing	2	1.4
<i>Hotel Stay Frequency in the Last Twelve Months</i>		
None	18	12.5
1-2 times	66	45.8
3-4 times	43	29.9
5-6 times	10	6.9
More than 6 times	6	4.2
Missing	1	0.7

*Online Booking Frequency in the Last Twelve Months*

None	24	16.7
1-2 times	64	44.4
3-4 times	42	29.2
5-6 times	7	4.9
More than 6 times	7	4.9

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### **Manipulation Check**

The manipulation check for Study 2 was similar to that used in Study 1. Following Song et al. (2019), participants were asked to select when their stay would occur from three options to ensure the temporal distance manipulation performed as expected: (1) week from now; (2) Six months from now; and, C) I do not remember. All participants except two in the ‘near future’ condition (97.1%,  $n = 77$ ) selected option (1), and every participant except one in the ‘distant future’ condition (98.7%,  $n = 70$ ) chose option (2). A total of three participants who failed the manipulation check were excluded from further analyses.

### **Reliability Test**

The reliability of the measures in the study was measured by the reliability analysis using SPSS 21.0. The Cronbach alpha values ranged from 0.917 to 0.944. The Cronbach alpha index ranges from 0 to 1, and the higher alpha value indicates a higher internal consistency. The generally agreed lower limit of the Cronbach’s alpha value is 0.70 (Hair et al., 2010). As seen in Table 19, all the variables had acceptable alpha values.

**Table 19**

## Measurement Scale Items, Means, Standard Deviations, and Reliability

Items	Mean	Std. Deviation	Cronbach's Alpha if Item Deleted	Cronbach's Alpha
<i>Perceived Financial Risk</i>				<i>0.921</i>
1. Booking the hotel room with the ['pay now' with surprise upgrade/ 'pay now' with surprise rebate/ 'pay later'] option would be an inappropriate way to spend money.	3.13	1.787	.923	
2. If I booked the hotel room with the ['pay now' with surprise upgrade/ 'pay now' with surprise rebate/ 'pay later'] option, I would be concerned that the financial investment would not be wise.	3.34	1.837	.881	
3. If I booked the hotel room with the ['pay now' with surprise upgrade/ 'pay now' with surprise rebate/ 'pay later'] option, I would be concerned that I would not get my money's worth from the booking.	3.36	1.877	.882	
4. Booking the hotel room with the ['pay now' with surprise upgrade/ 'pay now' with surprise rebate/ 'pay later'] option would not provide value for the money I spent.	3.25	1.750	.901	
<i>Perceived Psychological Risk</i>				<i>0.944</i>
1. The thought of booking the room with the ['pay now' with surprise upgrade/ 'pay now' with surprise rebate/ 'pay later'] option makes me feel uncomfortable.	3.08	1.875	.949	
2. The thought of booking the room with the ['pay now' with surprise upgrade/ 'pay now' with surprise rebate/ 'pay later'] option gives me a feeling of anxiety.	2.92	1.756	.906	
3. The thought of booking the room with the ['pay now' with surprise upgrade/ 'pay now' with surprise rebate/ 'pay later'] option causes me to experience tension.	2.97	1.871	.901	
<i>Perceived Time Risk</i>				<i>0.917</i>
1. Booking the hotel room with the ['pay now' with surprise upgrade/ 'pay now' with surprise rebate/ 'pay later'] option could lead to an inefficient use of my time.	3.04	1.815	.	
2. Booking the hotel room with the ['pay now' with surprise upgrade/ 'pay now' with surprise rebate/ 'pay later'] option could lead to an inefficient use of my time.	3.12	1.861	.	



with surprise rebate/ 'pay later'] option  
would take too much time / be a waste of  
time due to adjustments or refunds.

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## Testing of Hypotheses

### *Relationships between Temporal Distance and Payment Choice*

The first objective of Study 2 was to examine whether consumers' preference for payment option would be influenced by temporal distance (H7). To test the hypothesis, the study conducted the chi-square test. The results revealed there was a significant difference in payment choice based on temporal distance ( $\chi^2 = 12.930$ ;  $p < 0.01$ ; see Table 20), confirming H7. When the travel time was in the near future, around 45% of the participants preferred the 'pay now' with monetary incentive option for their hotel booking; when the travel time was in the distant future, however, a majority of participants (53%) preferred the 'pay later' option. When a chi-square test result has greater than one degree of freedom (i.e., larger than a  $2 \times 2$  contingency table for the chi-square test of independence), the source of a statistically significant result is unclear (Sharpe, 2015). To address this issue, the study further performed post-hoc analyses using partitioning, an approach that involves dividing contingency tables of greater than  $2 \times 2$  into a set of smaller  $2 \times 2$  sub-tables and then testing those  $2 \times 2$  tables for statistical significance. In other words, as the chi-square test results did not show which payment choice group is associated with temporal distance, the study treated Table 20 as a series of tables for each row and performed a series of chi-square tests for each sub-table (H7a-c).

**Table 20**

## Payment Choice Cross-tabulated with Temporal Distance

		Temporal Distance		Total	$\chi^2 / p$
		Near Future	Distant Future		
Payment Choice	Pay Now with Non-monetary Incentive	20 (29.0%)	19 (25.3%)	39 (27.1%)	12.930 / 0.002**
	Pay Now with Monetary Incentive	31 (44.9%)	16 (21.3%)	47 (32.6%)	
	Pay Later	18 (26.1%)	40 (53.3%)	58 (40.3%)	
	Total	69 (100.0%)	75 (100.0%)	144 (100.0%)	

In terms of the ‘pay now’ with non-monetary option, the distribution of cross-tabulated results (see Table 21) shows that the distribution of payment choice between two options (‘pay now’ with non-monetary incentive vs. non-‘pay now’ with non-monetary incentive [i.e., ‘pay now’ with monetary incentive & ‘pay now’; the remaining two options]) by temporal distance was not significant ( $\chi^2 = 0.243, p = 0.708$ ). Thus, H7a was not supported.

**Table 21**

## Payment Choice (Pay Now with Non-monetary Incentive vs. Non-Pay Now with Non-monetary Incentive [i.e., Pay Now with Monetary Incentive &amp; Pay Now]) Cross-tabulated with Temporal Distance

		Temporal Distance		Total	$\chi^2 / p$
		Near Future	Distant Future		
Payment Choice	Pay Now with Non-monetary Incentive	20 (29.0%)	19 (25.3%)	39 (27.1%)	0.243 / 0.708
	Non-Pay Now with Non-monetary Incentive (i.e., Pay Now with Monetary Incentive & Pay Now)	49 (71.0%)	56 (74.7%)	105 (72.9%)	
	Total	69 (100.0%)	75 (100.0%)	144 (100.0%)	

With regard to the ‘pay now’ with monetary incentive option, as shown in Table 22, the results of the chi-square test were significant ( $\chi^2= 9.099$ ;  $p < 0.01$ ). These results support H7b, and indicate that a significantly larger proportion of participants in the “near future” condition (44.9%,  $n = 69$ ) chose the ‘pay now’ with monetary incentive option than participants in the “distant future” condition (21.3%,  $n = 75$ ).

**Table 22**

Payment Choice (Pay Now with Monetary Incentive vs. Non-Pay Now with Monetary Incentive [i.e., Pay Now with Non-monetary Incentive & Pay Now]) Cross-tabulated with Temporal Distance

		Temporal Distance		Total	$\chi^2 / p$
		Near Future	Distant Future		
Payment Choice	Pay Now with Monetary Incentive	31 (44.9%)	16 (21.3%)	47 (32.6%)	9.099 / 0.004**
	Non-Pay Now with Monetary Incentive (i.e., Pay Now with Non-monetary Incentive & Pay Now)	38 (55.1%)	59 (78.7%)	97 (67.4%)	
	Total	69 (100.0%)	75 (100.0%)	144 (100.0%)	

Concerning the ‘pay later’ option, the significance of the chi-square test ( $\chi^2=11.091$ ,  $p < 0.01$ ) indicated that a significantly larger proportion of participants in the “distant future” condition (53.3%,  $n = 75$ ) selected the ‘pay later’ option than participants in the “near future” condition (26.1%,  $n = 69$ ). Thus, H7c was confirmed. The distribution of cross-tabulated results is presented in Table 23.

**Table 23**

Payment Choice (Pay Later vs. Non-Pay Later [i.e., Pay Now with Non-monetary & Monetary Incentives]) Cross-tabulated with Temporal Distance

		Temporal Distance		Total	$\chi^2 / p$
		Near Future	Distant Future		
Payment Choice	Pay Later	18 (26.1%)	40 (53.3%)	58 (40.3%)	11.09 1 / 0.001 **
	Non-Pay Later (i.e., Pay Now with Non-monetary & Monetary Incentives)	51 (73.9%)	35 (46.7%)	86 (59.7%)	
	Total	69 (100.0%)	75 (100.0%)	144 (100.0%)	

*The Effects of Temporal Distance and Payment Options on Perceived Financial Risk*

The second objective of Study 2 was to examine whether payment options and temporal distance jointly influence consumers' perceived financial, psychological, and time risks (H8a, H8b, and H8c). To test the hypotheses, a series of repeated measures ANOVAs were conducted with one between-subjects factor (temporal distance) and one within-subjects factor (payment options). In terms of perceived financial risk, the results revealed that the main effect of payment options was statistically significant ( $F(2, 282) = 12.112, p < .001, \text{partial } \eta^2 = .079$ ). Participants perceived a significantly higher level of financial risk from the 'pay now' with non-monetary and monetary incentive options than the 'pay later' option; there was no significant difference in perceived financial risk between the 'pay now' with non-monetary incentive option and the 'pay now' with monetary incentive option ( $M_{\text{pay now with non-monetary incentive}} = 3.54, M_{\text{pay now with monetary incentive}} = 3.43$  vs.  $M_{\text{pay later}} = 2.83$ ). The main effect of temporal distance was not, however, statistically significant ( $M_{\text{near future}} = 3.18$  vs.  $M_{\text{distant future}} = 3.35, F(1, 141) = .675, p = .413, \text{partial } \eta^2 = .005$ ).

The repeated measures ANOVA results also showed a significant payment options  $\times$  temporal distance interaction effect on perceived financial risk ( $F(1, 175) = 5.347, p < .01, \text{partial } \eta^2 = .081$ ), confirming H8a. When temporal distance was relatively long, participants perceived a significantly higher financial risk from the ‘pay now’ with non-monetary and monetary incentive options than the ‘pay later’ option ( $M_{\text{pay now with non-monetary incentive-distant future}} = 3.80, M_{\text{pay now with monetary incentive}} = 3.60$  vs.  $M_{\text{pay later-distant future}} = 2.642$ ). However, when temporal distance was relatively short, participants exhibited no such difference in perceived financial risk ( $M_{\text{pay now with non-monetary incentive-near future}} = 3.25, M_{\text{pay now with monetary incentive-near future}} = 3.26$  vs.  $M_{\text{pay later-near future}} = 3.04$ ). Table 24 presents the cell means and standard deviations and the interaction effect is visualized in Figure 7.

**Table 24**

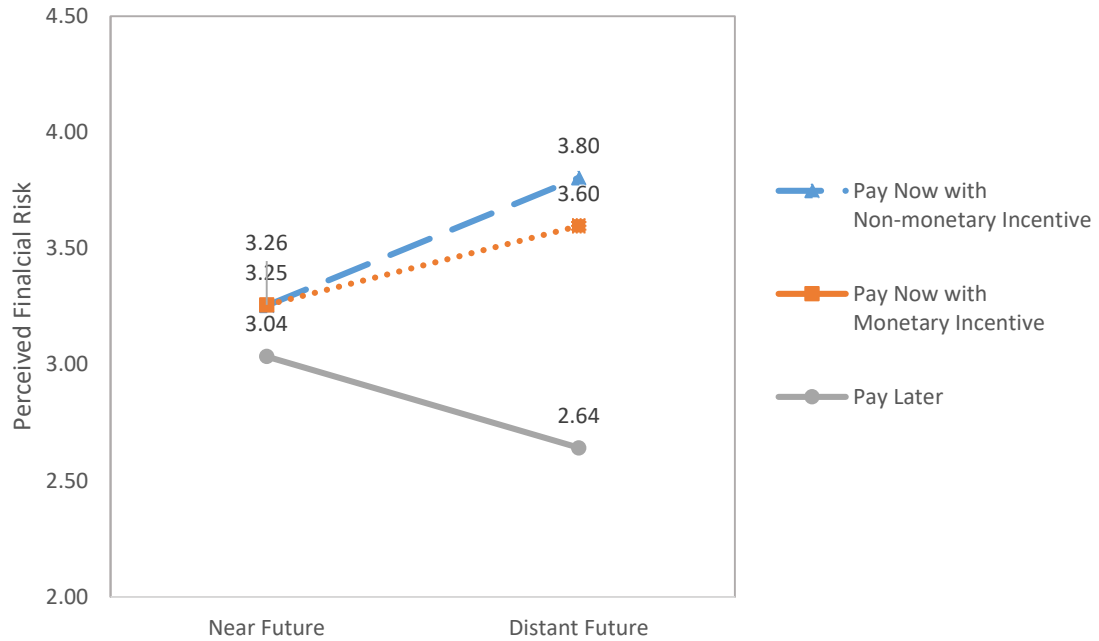
Means and Standard Deviations of Perceived Financial Risk by Payment Options and Temporal Distance Group

Group	Payment Options		
	Pay Now with Non-monetary Incentive	Pay Now with Monetary Incentive	Pay Later
Near Future Group (n = 69)	3.254 (1.506)	3.257 (1.658)	3.035 (1.652)
Distant Future Group (n = 74)	3.804 (1.546)	3.597 (1.681)	2.642 (1.518)

Note: Standard deviations are in parentheses.

**Figure 7.**

*Interaction Effect of Payment Options and Temporal Distance Group on Perceived Financial Risk*



*The Effects of Temporal Distance and Payment Options on Perceived Psychological Risk*

With regard to perceived psychological risk, the repeated measures ANOVA results showed that the main effect of payment options was statistically significant ( $F(2, 282) = 6.273, p < .01, \text{partial } \eta^2 = .043$ ). These results indicated that participants perceived a significantly higher level of psychological risk from the ‘pay now’ with non-monetary and monetary incentive options than the ‘pay later’ option ( $M_{\text{Pay Now with Non-Monetary Incentive}} = 3.14, M_{\text{Pay Now with Monetary Incentive}} = 3.20$  vs.  $M_{\text{Pay Later}} = 2.66$ ); there was no significant difference in perceived psychological risk between the ‘pay now’ with non-monetary incentive option and the ‘pay now’ with monetary incentive option. The main

effect of temporal distance was not, however, statistically significant ( $M_{near\ future} = 2.96$  vs.  $M_{distant\ future} = 3.04$ ,  $F(1,141) = .151$ ,  $p = .698$ , partial  $\eta^2 = .001$ ).

The results also revealed there was a significant payment options  $\times$  temporal distance interaction effect on perceived psychological risk ( $F(2, 282) = 4.464$ ,  $p < .05$ , partial  $\eta^2 = .031$ ). These results support H8b and indicate that participants with a longer temporal distance perceived a significantly higher psychological risk from the ‘pay now’ with non-monetary incentive and monetary incentive options than the ‘pay later’ option ( $M_{pay\ now\ with\ non-monetary\ incentive-distant\ future} = 3.34$ ,  $M_{pay\ now\ with\ monetary\ incentive-distant\ future} = 3.37$  vs.  $M_{pay\ later-distant\ future} = 2.42$ ). However, participants with a shorter temporal distance exhibited no such difference in perceived psychological risk ( $M_{pay\ now\ with\ non-monetary\ incentive-near\ future} = 2.94$ ,  $M_{pay\ now\ with\ monetary\ incentive-near\ future} = 3.03$  vs.  $M_{pay\ later-near\ future} = 2.91$ ). The cell means and standard deviations are displayed in Table 25 and the interaction effect is visualized in Figure 8.

**Table 25**

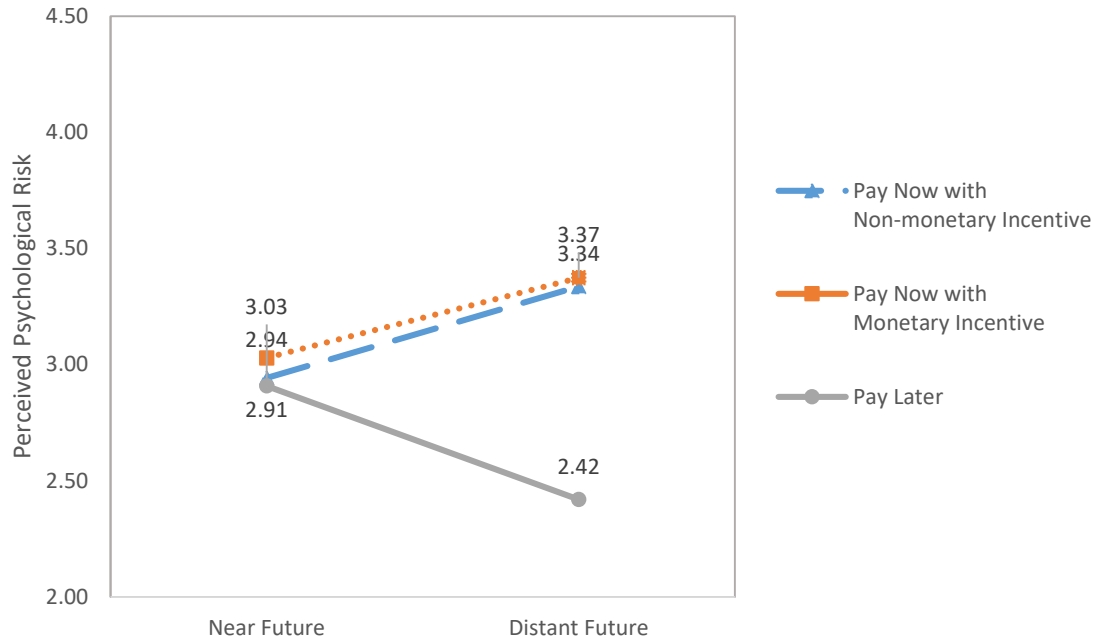
Means and Standard Deviations of Perceived Psychological Risk by Payment Options and Temporal Distance Group

Group	Payment Options		
	Pay Now with Non-monetary Incentive	Pay Now with Monetary Incentive	Pay Later
Near Future Group (n = 69)	2.942 (1.623)	3.029 (1.726)	2.908 (1.837)
Distant future Group (n = 74)	3.336 (1.756)	3.374 (1.731)	2.419 (1.734)

Note: Standard deviations are in parentheses.

**Figure 8.**

*Interaction Effect of Payment Options and Temporal Distance Group on Perceived Psychological Risk*



*The Effects of Temporal Distance and Payment Options on Perceived Time Risk*

In respect of perceived time risk, the repeated measures ANOVA revealed that the main effect of payment options was statistically significant ( $F(2, 282) = 12.112, p < .001, \text{partial } \eta^2 = .079$ ), indicating that participants perceived a significantly higher level of time risk from the ‘pay now’ with non-monetary and monetary incentive options than the ‘pay later’ option; there was no significant difference in perceived time risk between the ‘pay now’ with non-monetary incentive option and the ‘pay now’ with monetary incentive option ( $M_{\text{pay now with non-monetary incentive}} = 3.22, M_{\text{pay now with monetary incentive}} = 3.23$  vs.  $M_{\text{pay later}} = 2.79$ ). The main effect of temporal distance was not statistically



significant ( $M_{near\ future} = 3.02$  vs.  $M_{distant\ future} = 3.14$ ,  $F(1,141) = .294$ ,  $p = .589$ , partial  $\eta^2 = .002$ ).

The repeated measures ANOVA results also showed a significant payment options  $\times$  temporal distance interaction effect on perceived time risk ( $F(2, 282) = 6.131$ ,  $p < .01$ , partial  $\eta^2 = .042$ ). These results support H8c. In the “distant future” condition, participants perceived a significantly higher time risk from the ‘pay now’ with non-monetary and monetary incentive options than the ‘pay later’ option ( $M_{pay\ now\ with\ non-monetary\ incentive-distant\ future} = 3.48$ ,  $M_{pay\ now\ with\ monetary\ incentive} = 3.41$  vs.  $M_{pay\ later-distant\ future} = 2.53$ ). However, in the “near future” condition, participants exhibited no such difference in perceived time risk ( $M_{pay\ now\ with\ non-monetary\ incentive-near\ future} = 2.96$ ,  $M_{pay\ now\ with\ monetary\ incentive-near\ future} = 3.05$  vs.  $M_{pay\ later-near\ future} = 3.04$ ). Table 26 presents the cell means and standard deviations and the interaction effect is visualized in Figure 9.

**Table 26**

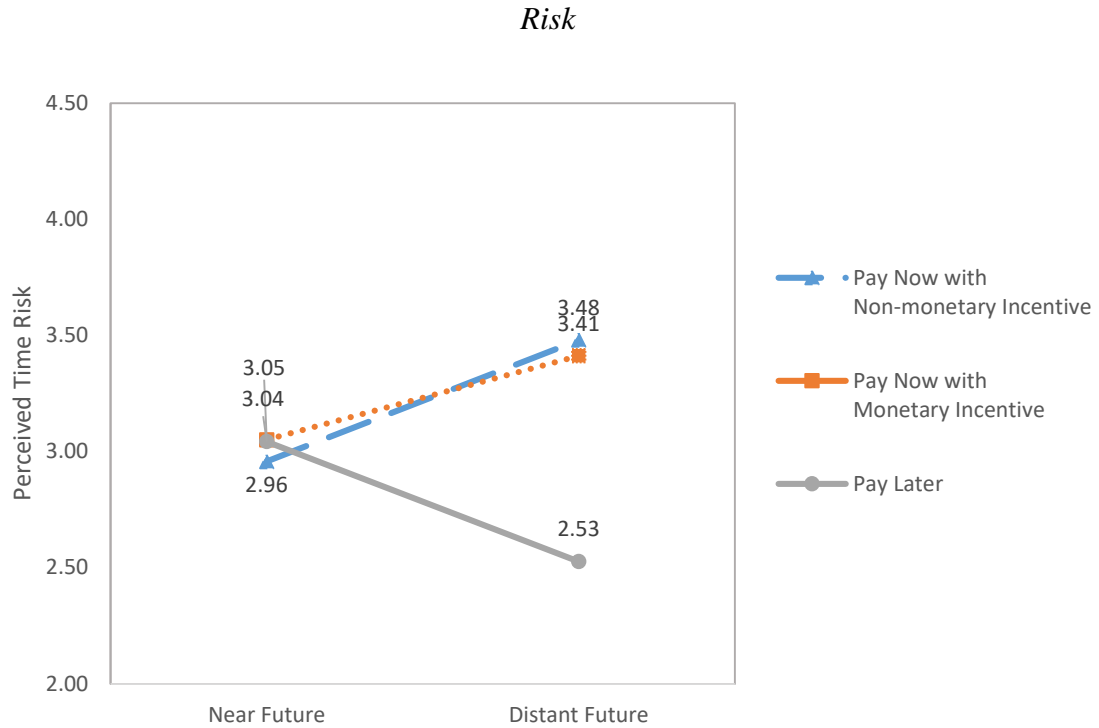
Means and Standard Deviations of Perceived Time Risk by Payment Options and Temporal Distance Group

Group	Payment Options		
	Pay Now with Non-monetary Incentive	Pay Now with Monetary Incentive	Pay Later
Near Future Group (n = 69)	2.957 (1.675)	3.051 (1.724)	3.043 (1.769)
Distant future Group (n = 74)	3.480 (1.772)	3.412 (1.873)	2.527 (1.643)

Note: Standard deviations are in parentheses.

**Figure 9.**

*Interaction Effect of Payment Options and Temporal Distance Group on Perceived Time Risk*



### **Discussion**

Study 2 extends Study 1 by examining the role of temporal distance on consumers' payment option preferences and investigating the interaction effects between temporal distance and payment option type on consumers' perceived financial risk, psychological risk and time risk in situations where a hotel offers different payment options for a room at the same time. Study 2 reveals that people are more likely to choose the 'pay now' with monetary incentive option (i.e., less costs) when the travel time is in the near future than in the distant future. Monetary incentives can be regarded as low-level construed messages because they place the emphasis on 'costs', which

indicate the feasibility of an event's outcome (i.e., the ease or difficulty of achieving the event outcome). When consumers encounter a message that is consistent with their mental representational state, they will give more weight to it. However, in terms of the 'pay now' with non-monetary incentive option (i.e., more gains), there is no such difference between the 'near future' and 'distant future' conditions. One plausible explanation for the null effect could be due to the fact that Study 2 presented the 'pay later' option with the 'pay now' with non-monetary incentive option. From a prospect theory (Kahneman & Tversky, 1979) perspective, delays in payments such as 'pay later' are considered as gains (i.e., additional benefits) and non-monetary incentives also focus on 'gains', which represent the desirability of an event's outcome. Although both the 'pay later' and 'pay now' with non-monetary incentive options focus on 'gains', people may perceive relatively more gains from the 'pay later' option than the 'pay now' with non-monetary incentive option in the "distant future" condition because of higher perceived risks caused by long temporal distance from the 'pay now' with non-monetary incentive option.

In addition, the results of Study 2 reveal that there are no significant differences in payment option preferences between the 'pay now' with non-monetary incentive and 'pay now' with monetary incentive options, especially when temporal distance is relatively long. These findings suggest that non-monetary incentives may not significantly affect consumers' payment choice preferences even when temporal distance is relatively long. One possible reason could be that price is one of the most important attributes in purchase decision-making (Chiang & Jang, 2007; Kim et al., 2006; Rheem,

2010). This fact may attenuate the effect of temporal distance on consumers' payment option preferences for the 'pay now' with non-monetary incentive option.

The results also suggest that when a hotel offers different payment options for the same room at the same time, consumers' perceived risks of the payment options could be affected by the other payment options. Interestingly, unlike Study 1, the results of Study 2 reveal that people perceive even less risks from the 'pay later' option in the 'distant future' condition than in the 'near future' condition. In Study 1, there were no differences in perceived risks from the 'pay later' option between the "near future" and "distant future" conditions. One speculation for this unexpected result is that people may perceive relatively less risks from the 'pay later' option due to the presence of the other 'pay now' options which lead to perceived higher risks in the 'distant future' condition than in the 'near future' condition.

## CHAPTER V

### GENERAL DISCUSSION

#### **Overview**

This chapter includes four sections. The first section provides a summary of the major findings of this two-study dissertation research. In the second section, theoretical contributions of the research are presented. The third section discusses managerial implications of the findings. This chapter concludes with limitations and recommendations for future research.

#### **Summary of Findings**

The overall purposes of this dissertation research are 1) to examine how consumers' booking decision-making process changes based on temporal distance when payments are delayed to the future (i.e., 'pay later') without paying a premium (Study 1), and 2) to investigate how temporal distance and incentive types influence consumers' payment preferences and perceived risks when the delayed payments involve paying a premium (Study 2).

In Study 1, the research 1) investigates whether delays in payments (i.e., pay later) influence consumers' perceived price, purchase intention, and perceived financial,

psychological, and time risks; and 2) examines whether temporal distance moderates such relationships. The results indicate that consumers perceive significantly lower financial, psychological, and time risks, and greater purchase intention when payments are delayed to the future. Study 1 also demonstrates that temporal distance moderates the effects of delays in payments on perceived financial, psychological, and time risks, and purchase intention. The results reveal that the effect of delays in payments is limited to situations when the travel time is in the distant future. These findings suggest that ‘pay later’ may not necessarily decrease consumers’ perceived risks or increase purchase intention when the travel time is in the relatively near future, in conformity with the notion that the more delays in payments, the more benefits one perceives (Siemens, 2007).

In Study 2, the research examines the role of temporal distance on consumers’ payment option preferences. The results support the hypothesis such that consumers’ payment option preferences are influenced by temporal distance. In accordance with the matching effect between temporal distance and message construal level, when the travel time is in the near future, consumers prefer the ‘pay now’ with monetary incentive option. That is because temporally proximal consumers give more weight to feasibility concerns than desirability concerns. However, when the travel time is in the distant future, this preference for the ‘pay now’ with monetary incentive option decreases significantly, and consumers prefer the ‘pay later’ option. Next, Study 2 investigates the interaction effects between temporal distance and payment options on consumers’ perceived risks. The results indicate that consumers with a longer temporal distance perceive significantly higher risks from the ‘pay now’ with non-monetary incentive and

monetary incentive options than the ‘pay later’ option. However, consumers with a shorter temporal distance exhibit no such differences in perceived risks.

### **Theoretical Contributions**

This dissertation research provides several important theoretical contributions. First, the findings contribute to the understanding of the impact of delays in payments on consumers' perceived risks. When it comes to delays in benefits (i.e., gains), the previous research has considered their risk aspects (Bixter & Luhmann, 2011; Patak & Reynolds, 2007; Takahashi, Ikeda, & Hasegawa, 2007). For instance, if offered \$100 today or \$120 in a year, people may give more weight to the \$100 because it is a sure thing, while the future is inherently unpredictable and uncertain. In this case, possible risks can be considered are a) the promised money may never arrive or b) one might die before receiving it (Hardisty et al., 2013). However, the previous literature of delays in payments (i.e., losses) mainly focused on the cost and behavioral aspects, such as people's discount rates for present versus future losses (Benhabib et al., 2010) and choice between immediate and delayed payments (Hardisty et al., 2013), and consumer researchers have paid little attention to these risks aspects of delays in payments. This approach has limits in analyzing the ‘book now, pay later’ transactions because of the inherent characteristics of the hotel industry (e.g., perishability – consumers cannot store their unused hotel rooms). Specifically, consumers' perceived risks from the ‘pay now’ or ‘pay later’ transaction may vary depending on their temporal distance between the time of booking and the time of arrival. By investigating this dynamic ‘book now, pay

later' transaction, this dissertation provides a better understanding of how delays in payments influence online hotel bookers' perceived financial, psychological, and time risks.

Second, this dissertation research extends transaction de-coupling (i.e., buy now, pay later) literature by examining situations where delays in payments require a premium (i.e., higher price) in the online hotel booking setting. The majority of the previous studies on transaction de-coupling have mainly focused on the delays in payments which do not require any fees for 'pay later' (e.g., Siemens, 2007; Gourville & Soman, 1998). In other words, they did not consider the dynamic value of 'pay later' depending on the temporal distance. However, in many cases in the context of hospitality and tourism, service providers either charge a premium for 'pay later' or give an incentive for 'pay now', and consumers' perceptions of 'pay later' may be different based on how long they can delay their payment. In spite of that, there has been scant attention to how people react in these situations. The current dissertation research attempts to fill this gap by investigating the 'pay later' situations that require a higher cost for delaying (i.e., paying a premium). This dissertation research represents a critical step toward understanding how people perceive 'pay later' with a premium according to their time of booking. Moreover, this research extends transaction de-coupling (decoupling effect) literature by investigating coupling effect in the online hotel booking context. In the case of ordinary retail products, transaction benefits and costs occurred temporally together, and decoupling effect (e.g., buy now, pay later) happens when payment of a good (or consumption benefits) temporally precedes transaction costs (Siemens, 2007). However, in the context of hotel bookings, costs generally precede consumption benefits (i.e.,



staying at a hotel), and the ‘book now, pay later’ transactions happen when a payment is coupled with the consumption of a benefit (i.e., payment at the property). Therefore, the retail products’ approach has limits in analyzing the ‘book now, pay later’ transactions because of the nature of the hotel industry. To date, consumer researchers have largely ignored how these coupled transactions influence consumers’ perceptions and behavioral intent, and whether temporal distance influences such relationships.

Finally, this dissertation provides important implications for research on construal level theory (CLT) by investigating incentive types in the online hotel booking context. One of the most cited findings in the CLT literature is shifts in weighing for desirability and feasibility (Liberman & Trope, 1998), and they have been applied to studies on incentive type. Chou and Lien (2012) have shown that when the promoted travel destination is spatially distant, people prefer non-monetary incentives; when the travel destination is spatially near, however, monetary incentives can generate better advertising effectiveness. In reality, consumers may face not only the non-monetary versus monetary incentive options but also other purchase options simultaneously such as ‘pay later’. This dissertation extends Chou and Lien’s (2012) findings and suggests that the well-established shift in the weighing of desirability/feasibility attributes between non-monetary and monetary incentives could not be observed when there is another option with the incentives. This research demonstrates that when a hotel offers different payment options for the same room at the same time, consumers’ preferences for the payment options and perceived risks from them could be affected by other payment options.

## **Managerial Implications**

There are several important practical implications of this dissertation research. First, the findings can guide hotel providers on how they can effectively use the ‘book now, pay later’ option. By providing empirical evidence for the moderating role of temporal distance, this dissertation helps hotel marketers better assess how much the ‘book now, pay later’ option is worth to a consumer’s perceived price and booking decisions over time. The findings suggest that the role of ‘pay later’ in driving hotel bookings may be limited to temporally distal situations, and hotel rooms that are temporally proximal may not require the ‘pay later’ option to lure consumers. When the date of arrival is in the distant future, marketers may provide the ‘pay later’ option instead of a price discount in order to encourage advance booking and ensure its profitability. The results demonstrate that the ‘pay later’ option is more preferable to other incentive options (i.e., monetary or non-monetary incentive) when the date of check-in is temporally distant. However, when the date of arrival is in the near future, the ‘pay later’ option may not lead to lower perceived price nor higher booking intention. If the difference between ‘pay now’ and ‘pay later’ is not significant under these situations (e.g., last-minute bookings), it would be better for service providers who offer the free ‘pay later’ option regardless of a customer’s booking time to consider not doing so. In this context, hotel marketers should not overuse the free ‘book now, pay later’ option in order to lock in their customers. Specifically, marketers could consider hotel bookers’ temporal distance to customize payment options. An appropriate payment option can be displayed as a default when booking website visitors search for available

rooms by typing in the period of their intended stay. This can be done when marketers recognize the dynamic value of the ‘pay later’ option depending on the time of booking.

Second, this dissertation research provides helpful suggestions on the use of incentives for the ‘pay now’ option. As discussed earlier, since the ‘pay later’ option requires no financial commitment, it might lead to negative consequences such as no-shows or last-minute cancellations. Thus, it is valuable to understand the preferred kinds of incentives (monetary versus non-monetary) for potential consumers based on their temporal distance in order to effectively encourage the ‘pay now’ option. Possible guidance for service providers could be that if the date of arrival is temporally imminent, they may provide monetary incentives to encourage consumers to choose the ‘pay now’ option based on the results of the research. In contrast, if the date of arrival is temporally distant, marketers may provide non-monetary incentives instead of monetary incentives (i.e., price discounts) to promote the ‘pay now’ option. For example, the catchline “Enjoy complimentary breakfast when selecting Pay Now” might be a clever sales strategy when dealing with consumers with a long temporal distance. Service providers thereby may have a better profit margin on the ‘pay now’ option since the actual net costs of non-monetary incentives (e.g., free upgrade or complimentary breakfast) are substantially less than the prices consumers pay for those services or products. In addition, the results suggest that the ubiquitous lure of incentive may not be as universal as often assumed. Incentives are frequently used to boost their sales and influence consumers’ purchase decisions (Shi et al., 2005). However, the research demonstrates that incentives may not necessarily drive consumers’ preferences for ‘pay now’ if the date of arrival is temporally distant. In such situations, marketers may provide the ‘pay

later' option along with the 'pay now' option. Otherwise, temporally distant consumers may shy away from 'pay now' and never return to the room listing because the timing of the decision is a crucial factor in payment option choice.

Lastly, the current dissertation helps hotel marketers better understand consumers' perceived risks from each payment option according to the time of booking. Given the perishable nature of the hotel industry, where consumers cannot store their unused rooms, it is important to know how they perceive possible risks based on their time of booking in order to act upon their perceived risks. The findings suggest that when booking, consumers may perceive less risks from the 'pay later' option in the 'distant future' condition (e.g., six months before arrival) than in the 'near future' condition (e.g., one week before arrival) although the greater temporal distance from the date of arrival intensifies consumers' perceived risks. Therefore, when the arrival date is temporally far, marketers may place an emphasis on the psychological aspects of the 'pay later' option in order to encourage consumers to make advance bookings because the greater temporal distance consumers have, the less risks (the more benefits) they may perceive from the 'pay later' option. For example, marketers may advertise risk-focused selling points, such as "This risk-free option gives you more flexibility and peace of mind!" However, the findings demonstrate that neither of the two types of incentives for the 'pay now' option decreases consumers' level of perceived risks. Therefore, this dissertation suggests that incentives for the 'pay now' option may not necessarily influence consumers' subsequent purchase intentions if their travel time is in the relatively distant future. By understanding these perceived risk aspects in the booking process, marketers are able to establish dynamic and effective strategies for early bookers.

## **Limitations**

As with other research, this dissertation is not without its limitations. First, this research has several limitations to generalize the results as the scenarios set specific contexts for the experiments. Firstly, the findings are tied to the three-star hotels (upper-midscale) that this research used for the scenarios. Their target group would be average income consumers who are price-sensitive and care about incentives and the ‘pay later’ option. However, luxury or economy hotel guests may have different perceptions of incentives and delays in payments. Thus, it remains to be determined whether the same pattern of results would generalize to other hotel segments. Secondly, temporal distance was manipulated at only two levels in the experiments (i.e., one week or six months). Although the temporal distance manipulation was adopted from previous studies (Choi et al., 2019; Liberman et al., 2002; Stephan et al., 2011), it may have limits in analyzing the entire dynamic pattern of consumers’ perceptions and behaviors over time. Thirdly, this study chose two of the most well-known U.S. cities for the scenarios, and participants were limited to people who were currently living in the United States to make sure every participant feels familiar with the travel destinations. Nevertheless, it is possible that where they live might have influenced their responses. For example, if a participant was living near New York City, which was the travel destination of Study 1, that participant would perceive less risks or have less preference for the ‘pay later’ option. Fourthly, the time of booking may depend on the travel destination. For example, international travel and specific popular places such as major amusement parks or the Grand Canyon are more likely to require people to book early. Therefore, people may show different perceptions and purchase intentions toward other travel destinations other than the two

domestic places used in the scenarios. Lastly, this research mainly examined one hotel customer segment, leisure travelers, to test the hypotheses. Thus, one should be cautious about generalizing the results to other customer types such as business travelers.

Although around 80% of U.S. domestic trips are taken for leisure purposes (U.S. Travel Association, 2020), leisure travelers' common perceptions and behaviors about their bookings may not be applicable to all types of hotel guests. For instance, in general, leisure travelers tend to be more price-sensitive than business travelers (Knutson, 1988). The characteristics of leisure travelers may have influenced the results of this research.

Second, the data used in the analyses for the current research may be derived from non-representative samples, and this could limit the generalizability of the results. The data was collected through an online crowd-sourcing platform, Amazon Mechanical Turk (MTurk), and prior research indicates that the quality of data provided by MTurk satisfies or exceeds the psychometric standards associated with published research (Buhrmester et al., 2011). However, only people who signed up for the website and were qualified as "Master Workers" had a chance to participate. Thus, important viewpoints or key data may have ended up not being reflected in the final data set. Moreover, MTurk samples may have a limitation with regard to habitual responding, given the fact that the primary reason for participating in MTurk studies is monetary compensation (Litman et al., 2015). Therefore, a fair proportion of MTurk workers may rush through a study to just receive their financial compensation and maximize their pay/time ratio. This fact may have affected the quality of participants' answers, although the current research employed attention and manipulation checks in the online experiments to make sure the participants were doing their best.

Finally, the limitations of a repeated measures design should also be acknowledged. This dissertation research employed the repeated measures design for Study 2 to simulate reality as accurately as possible because, in reality, a typical OTA webpage or individual hotel website shows multiple payment options (e.g., ‘pay now’ or ‘pay later’) at the same time. A repeated measures design (within-subjects) has some drawbacks compared to designs that have independent groups (between-subjects). One of the main disadvantages is known as “order effects”, and they are incurred by exposing the subjects to multiple treatments. Order effects are associated with the sequence that treatments are exposed but not due to the treatment itself. To address this issue, this research employed the randomization procedure, in which repeated assessments are carried out in a random order determined separately for each participant or order group. Nonetheless, a possible limitation of employing the randomization procedure could be the fact that in reality hotel booking websites usually do not present their payment options in a random sequence. In addition, there is another limitation of using a repeated measures design compared to a design that has independent groups. For example, regardless of the randomization procedure, participants needed to answer a fair amount of questions because they were exposed to three treatments (i.e., the three payment options in Study 2) in a row. This fact may have influenced the quality of data gathered.

### **Recommendations for Future Research**

There are several fertile avenues for future research. First, future studies can look into other factors that may influence consumers’ perceived risks and purchase intention to understand the boundary conditions. The current research examined what types of

payment options were preferable mainly for U.S. domestic travelers and how they perceived risks from the payment options based on their temporal distance. However, international travelers may have different characteristics due to their relatively long spatial distance from the travel destination compared to domestic travelers. For example, international travelers may rely more on hotel brand familiarity and book their room in advance because they tend to perceive more risks compared to domestic travelers. Thus, future research could investigate the effects of spatial distance (i.e., international vs. domestic travel) and brand familiarity (i.e., well-known international chain hotel vs. lesser-known local hotel) on consumers' perceptions and behaviors. Given the fact that the international travel market is projected to grow further, research efforts to understand how the characteristics of international travelers are distinct from domestic travelers would be essential.

Second, future research could be enriched using multiple sources of data and research methods. The current research used an online crowd-sourcing platform to conduct the online experiments. Future research could utilize a triangulation method to address the possible shortcomings of any single approach. Triangulation is defined as the use of multiple methods and data sources in the study of the same phenomenon (Denzin, 1978). Additional studies could be conducted in traditional laboratory settings (face-to-face populations) as well as Internet-based experiment settings (online populations). Although online populations have many advantages such as easier access to various populations and larger sample sizes, face-to-face populations may provide distinguishing advantages to make-up the shortcomings of using online populations. For example, the ability for a researcher to verbally guide participants and answer questions throughout the



experiment process may significantly enhance participants' understanding of the task they need to complete. However, this communication becomes much more difficult online in situations where the researchers and participants never meet (Crump et al., 2013). Moreover, another possible method as a triangulation approach is to use real-world data from a hotel or OTA company. The comparison between secondary data and primary data could provide an effective means to triangulate the findings of the experimental data and offer a more longitudinal and comprehensive understanding of a phenomenon.

Lastly, one interesting area for future investigations could be to explore how airline customers' perceptions of the 'book now, pay later' option change over time. Although the airline industry's pricing mechanisms are much more complicated than those of the hotel industry, the two industries have a lot in common. Both of their customers book in advance and timing has an important role in their decision-making process. Because of these similarities, hotel revenue management originated from the airline industry. However, the 'book now, pay later' practice in the airline industry may be different from that of the hotel industry. For example, the airline industry's 'pay later' option allows consumers to delay their payment for a certain period of time (e.g., six months). Therefore, consumers may not necessarily need to pay for their flight when they check-in. These differences and similarities between the two industries are expected to offer a fertile avenue for future research.

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## APPENDICES

### APPENDIX A

#### Instrument of Study 1

**Are you over the age of 18?**

- A) Yes
- B) No

**Are you currently living in the USA?**

- A) Yes
- B) No



**Please consider the following scenario.**

<Pay Now – Near Future Condition>

Imagine you are planning a vacation to Los Angeles and need to reserve a hotel room. Your trip would be **in one week**. You search online and find Hotel LA has the exact features you are looking for (see the information below). You are also willing to pay the quoted room rate which is \$139/night. You notice that this hotel only offers the ‘non-refundable’ option - If you book this room now, you have to **pay now**. If you cancel your reservation, your credit card will be charged in full.

**Hotel LA** ★★★



Excellent 2,238 reviews 9.0

Room Type	Today's Price	Your Choices	Select Rooms	
<p>➤ <b>King Room</b></p> <p>1 king bed </p> 	<b>\$139</b>	<ul style="list-style-type: none"><li>• <b>Non-refundable</b></li></ul>	0 ▾	<b>I'll reserve</b>

<Pay Now – Distant Future Condition>

Imagine you are planning a vacation to Los Angeles and need to reserve a hotel room. Your trip would be **in six months**. You search online and find Hotel LA has the exact features you are looking for (see the information below). You are also willing to pay the quoted room rate which is \$139/night. You notice that this hotel only offers the ‘non-refundable’ option - If you book this room now, you have to **pay now**. If you cancel your reservation, your credit card will be charged in full.

**Hotel LA** ★★★ Excellent 2,238 reviews **9.0**

Room Type	Today's Price	Your Choices	Select Rooms	
<p>➤ <b>King Room</b></p> <p>1 king bed </p> 	<b>\$139</b>	<ul style="list-style-type: none"><li><b>Non-refundable</b></li></ul>	0 ▾	<b>I'll reserve</b>



<Pay Later – Near Future Condition>

Imagine you are planning a vacation to Los Angeles and need to reserve a hotel room. Your trip would be **in one week**. You search online and find Hotel LA has the exact features you are looking for (see the information below). You are also willing to pay the quoted room rate which is \$139/night. You notice that this hotel offers the ‘Book Now, Pay Later’ option - If you book this room now, you can **pay later at the property**. You can cancel your reservation for free up to 48 hours before arrival.

Hotel LA ★★★

Excellent  
2,238 reviews

9.0


Room Type	Today's Price	Your Choices	Select Rooms	
<p>➤ <b>King Room</b></p> <p>1 king bed </p> 	<b>\$139</b>	<p>✓ Free cancelation</p> <p>✓ Reserve now, pay when you stay</p>	<input type="text" value="0"/>	<p>I'll reserve</p>

<Pay Later – Distant Future Condition>

Imagine you are planning a vacation to Los Angeles and need to reserve a hotel room. Your trip would be **in six months**. You search online and find Hotel LA has the exact features you are looking for (see the information below). You are also willing to pay the quoted room rate which is \$139/night. You notice that this hotel offers the ‘Book Now, Pay Later’ option - If you book this room now, you can **pay later at the property**. You can cancel your reservation for free up to 48 hours before arrival.

**Hotel LA** ★★★

**Excellent**  
2,238 reviews 9.0

Room Type	Today's Price	Your Choices	Select Rooms	
<p>➤ <b>King Room</b></p> <p>1 king bed </p> 	<p><b>\$139</b></p>	<ul style="list-style-type: none"> <li>✓ Free cancelation</li> <li>✓ Reserve now, pay when you stay</li> </ul>	<p>0 ▼</p>	<div style="background-color: #4a86e8; color: white; padding: 5px 15px; border-radius: 5px; display: inline-block;">I'll reserve</div>



Please answer the following questions after carefully considering all of the facts outlined in this scenario.

**Q1. Based on the scenario, a message regarding payment shown on the OTA website is: \_\_\_\_\_.**

- A) Non-refundable (Pay Now).
- B) Reserve now, pay when you stay (Pay Later).
- C) I do not remember.

**Q2. Based on the scenario, your stay would occur \_\_\_\_\_.**

- A) A week from now.
- B) Six months from now.
- C) I do not remember.

**Q3. Considering a potential cancellation from the time of your booking to your scheduled check-in date, please indicate your level of agreement with the following statements.**

---

	Strongly disagree				Strongly agree		
	1	2	3	4	5	6	7
1. Booking the hotel room would be an inappropriate way to spend money.	1	2	3	4	5	6	7
2. If I booked the hotel room, I would be concerned that the financial investment would not be wise.	1	2	3	4	5	6	7
3. If I booked the hotel room, I would be concerned that I would not get my money's worth from the booking.	1	2	3	4	5	6	7
4. Booking the hotel room would not provide value for the money I spent.	1	2	3	4	5	6	7

---

**Q4. Considering a potential cancellation from the time of your booking to your scheduled check-in date, please indicate your level of agreement with the following statements.**

	Strongly disagree				Strongly agree		
1. The thought of booking the room makes me feel uncomfortable.	1	2	3	4	5	6	7
2. The thought of booking the room gives me a feeling of anxiety.	1	2	3	4	5	6	7
3. The thought of booking the room causes me to experience tension.	1	2	3	4	5	6	7

**Q5. Considering a potential cancellation from the time of your booking to your scheduled check-in date, please indicate your level of agreement with the following statements.**

	Strongly disagree				Strongly agree		
1. Booking the hotel room could lead to an inefficient use of my time.	1	2	3	4	5	6	7
2. Booking the hotel room would take too much time / be a waste of time due to adjustments or refunds.	1	2	3	4	5	6	7
3. This is an attention filter. Please select 'Strongly disagree' for this statement.	1	2	3	4	5	6	7

**Q6. Please indicate your level of agreement with the following statements.**

	Strongly disagree				Strongly agree		
1. The room price is inexpensive.	1	2	3	4	5	6	7
2. The room price is reasonable.	1	2	3	4	5	6	7
3. The room price is appropriate.	1	2	3	4	5	6	7
4. The room price is affordable.	1	2	3	4	5	6	7

**Q7. Please indicate your level of agreement with the following statements.**

	Strongly disagree				Strongly agree		
1. After reviewing the information, the probability that I would book this hotel is high.	1	2	3	4	5	6	7
2. I would consider booking this room at the price shown.	1	2	3	4	5	6	7
3. My willingness to book this hotel is high.	1	2	3	4	5	6	7

**1. What is your gender?**

- A) Male
- B) Female
- C) Trans male
- D) Trans female
- E) Gender Variant
- F) Not Listed: \_\_\_\_\_

**2. How old are you?**

- A) 18 – 25
- B) 26 – 35
- C) 36 – 45
- D) 46 – 55
- E) 56 – 65
- F) 66 and over

**3. What is your combined annual household income?**

- A) \$19,999 or less
- B) \$20,000 - \$39,999
- C) \$40,000 - \$79,999
- D) \$80,000 - \$119,999
- E) \$120,000 - \$159,999
- F) \$160,000 - \$199,999
- G) \$200,000 and over

**4. What is your highest level of education?**

- A) High School
- B) Associate's Degree
- C) Bachelor's Degree
- D) Graduate Degree
- E) Other Education: \_\_\_\_\_

**5. Please indicate how many times you have stayed at hotels for leisure purposes in the last twelve months?**

- A) None
- B) 1-2 times
- C) 3-4 times
- D) 5-6 times
- D) More than 6 times

**6. Please indicate how many times you have made online hotel reservations in the last twelve months?**

- A) None
- B) 1-2 times
- C) 3-4 times
- D) 5-6 times
- D) More than 6 times

APPENDIX B  
Instrument of Study 2

**Are you over the age of 18?**

- A) Yes
- B) No

**Are you currently living in the United States?**

- A) Yes
- B) No



**Please consider the following scenario.**

<Near Future Condition>

Imagine you are planning a solo leisure trip to New York City and need to reserve a hotel room. Your trip would be **in one week**. You search online and find Hotel NYC has the exact features you are looking for (see the information below). You notice that for the same rate this hotel has three different offers. The room rate fits your budget.

**Hotel NYC** ★★★

Excellent  
2,238 reviews **9.0**

Room Type	Today's Price	Your Choices	Select Rooms
<p>➤ <b>Standard Room</b></p> <p>1 full bed </p> 	\$189	<ul style="list-style-type: none"> <li>✓ Surprise rebate upon check-in</li> <li>✓ Pay Now</li> <li>✓ Non-refundable cancellation</li> </ul>	<b>I'll reserve</b>
	\$189	<ul style="list-style-type: none"> <li>✓ Surprise upgrade upon check-in</li> <li>✓ Pay Now</li> <li>✓ Non-refundable cancellation</li> </ul>	<b>I'll reserve</b>
	\$189	<ul style="list-style-type: none"> <li>✓ Pay Later</li> <li>✓ Free cancellation</li> </ul>	<b>I'll reserve</b>

<Distant future Condition>

Imagine you are planning a solo leisure trip to New York City and need to reserve a hotel room. Your trip would be **in six months**. You search online and find Hotel NYC has the exact features you are looking for (see the information below). You notice that for the same rate this hotel has three different offers. The room rate fits your budget.

**Hotel NYC** ★★★

Excellent  
2,238 reviews **9.0**

Room Type	Today's Price	Your Choices	Select Rooms
<p>➤ <b>Standard Room</b></p> <p>1 full bed </p> 	\$189	<ul style="list-style-type: none"> <li>✓ Surprise rebate upon check-in</li> <li>✓ Pay Now</li> <li>✓ Non-refundable cancellation</li> </ul>	<b>I'll reserve</b>
	\$189	<ul style="list-style-type: none"> <li>✓ Surprise upgrade upon check-in</li> <li>✓ Pay Now</li> <li>✓ Non-refundable cancellation</li> </ul>	<b>I'll reserve</b>
	\$189	<ul style="list-style-type: none"> <li>✓ Pay Later</li> <li>✓ Free cancellation</li> </ul>	<b>I'll reserve</b>

Please answer the following questions after carefully considering all of the facts outlined in this scenario.

**Q1. Based on the scenario, your stay would occur \_\_\_\_\_,**

- A) One week from now.
- B) Six months from now.
- C) I do not remember.

**Q2. Finally, you have decided to choose this hotel. What option would you choose?**

- A) Pay Now with Surprise Upgrade
- B) Pay Now with Surprise Rebate
- C) Pay Later

**Q3. Below is a list of statements regarding the ‘Pay Now with Surprise Upgrade’ option. Please indicate how much you agree or disagree with each statement.**

	Strongly disagree	Strongly agree
1. Booking the hotel with the ‘Pay Now with Surprise Upgrade’ option would be an inappropriate way to spend money.	1	2 3 4 5 6 7
2. If I booked the hotel with the ‘Pay Now with Surprise Upgrade’ option, I would be concerned that the financial investment would not be wise.	1	2 3 4 5 6 7
3. If I booked the hotel with the ‘Pay Now with Surprise Upgrade’ option, I would be concerned that I would not get my money’s worth from the booking.	1	2 3 4 5 6 7
4. Booking the hotel with the ‘Pay Now with Surprise Upgrade’ option would not provide value for the money I spent.	1	2 3 4 5 6 7
5. The thought of booking the hotel with the ‘Pay Now with Surprise Upgrade’ option makes me feel uncomfortable.	1	2 3 4 5 6 7
6. The thought of booking the hotel with the ‘Pay Now with Surprise Upgrade’ option gives me a feeling of anxiety.	1	2 3 4 5 6 7
7. The thought of booking the hotel with the ‘Pay Now with Surprise Upgrade’ option causes me to experience tension.	1	2 3 4 5 6 7
8. Booking the hotel with the ‘Pay Now with Surprise Upgrade’ option could lead to an inefficient use of my time.	1	2 3 4 5 6 7
9. Booking the hotel with the ‘Pay Now with Surprise Upgrade’ option would take too much time / be a waste of time due to adjustments or refunds.	1	2 3 4 5 6 7



**Q4. Below is a list of statements regarding the ‘Pay Now with Surprise Rebate’ option. Please indicate how much you agree or disagree with each statement.**

	Strongly disagree	Strongly agree
1. Booking the hotel with the ‘Pay Now with Surprise Rebate’ option would be an inappropriate way to spend money.	1	2 3 4 5 6 7
2. If I booked the hotel with the ‘Pay Now with Surprise Rebate’ option, I would be concerned that the financial investment would not be wise.	1	2 3 4 5 6 7
3. If I booked the hotel with the ‘Pay Now with Surprise Rebate’ option, I would be concerned that I would not get my money’s worth from the booking.	1	2 3 4 5 6 7
4. Booking the hotel with the ‘Pay Now with Surprise Rebate’ option would not provide value for the money I spent.	1	2 3 4 5 6 7
5. The thought of booking the hotel with the ‘Pay Now with Surprise Rebate’ option makes me feel uncomfortable.	1	2 3 4 5 6 7
6. The thought of booking the hotel with the ‘Pay Now with Surprise Rebate’ option gives me a feeling of anxiety.	1	2 3 4 5 6 7
7. The thought of booking the hotel with the ‘Pay Now with Surprise Rebate’ option causes me to experience tension.	1	2 3 4 5 6 7
8. Booking the hotel with the ‘Pay Now with Surprise Rebate’ option could lead to an inefficient use of my time.	1	2 3 4 5 6 7
9. Booking the hotel with the ‘Pay Now with Surprise Rebate’ option would take too much time / be a waste of time due to adjustments or refunds.	1	2 3 4 5 6 7

**Q5. Below is a list of statements regarding the ‘Pay Later’ option. Please indicate how much you agree or disagree with each statement.**

	Strongly disagree	Strongly agree
1. Booking the hotel with the ‘Pay Later’ option would be an inappropriate way to spend money.	1	2 3 4 5 6 7
2. If I booked the hotel with the ‘Pay Later’ option, I would be concerned that the financial investment would not be wise.	1	2 3 4 5 6 7
3. If I booked the hotel with the ‘Pay Later’ option, I would be concerned that I would not get my money’s worth from the booking.	1	2 3 4 5 6 7
4. Booking the hotel with the ‘Pay Later’ option would not provide value for the money I spent.	1	2 3 4 5 6 7
5. The thought of booking the hotel with the ‘Pay Later’ option makes me feel uncomfortable.	1	2 3 4 5 6 7
6. The thought of booking the hotel with the ‘Pay Later’ option gives me a feeling of anxiety.	1	2 3 4 5 6 7
7. The thought of booking the hotel with the ‘Pay Later’ option causes me to experience tension.	1	2 3 4 5 6 7
8. Booking the hotel with the ‘Pay Later’ option could lead to an inefficient use of my time.	1	2 3 4 5 6 7

---

9. Booking the hotel with the **'Pay Later'** option would take too much time / be a waste of time due to adjustments or refunds.

---

1 2 3 4 5 6 7

**1. What is your gender?**

- A) Male
- B) Female
- C) Other (specify): \_\_\_\_\_

**2. How old are you?**

\_\_\_\_\_ years

**3. What is your combined annual household income?**

- H) \$19,999 or less
- I) \$20,000 - \$39,999
- J) \$40,000 - \$79,999
- K) \$80,000 - \$119,999
- L) \$120,000 - \$159,999
- M) \$160,000 - \$199,999
- N) \$200,000 and over

**4. What is your highest level of education?**

- F) High School
- G) Associate's Degree
- H) Bachelor's Degree
- I) Graduate Degree
- J) Other Education: \_\_\_\_\_

**5. How many times have you stayed at hotels for leisure purposes in the last twelve months?**

- A) None
- B) 1-2 times
- C) 3-4 times

D) 5-6 times

D) More than 6 times

**6. How many times have you made online hotel reservations in the last twelve months?**

A) None

B) 1-2 times

C) 3-4 times

D) 5-6 times

D) More than 6 times

## APPENDIX C

### Institutional Review Board (IRB) Approval



#### Oklahoma State University Institutional Review Board

Application Number: HS-19-20  
Proposal Title: The effects of temporal distance on booking behaviors

Principal Investigator: Isaac Jang  
Co-Investigator(s):  
Faculty Adviser: Li Miao  
Project Coordinator:  
Research Assistant(s):

**Status Recommended by Reviewer(s): Approved**

Study Review Level: Exempt  
Modification Approval Date: 03/24/2020

---

The modification of the IRB application referenced above has been approved. It is the judgment of the reviewers that the rights and welfare of individuals who may be asked to participate in this study will be respected, and that the research will be conducted in a manner consistent with the IRB requirements as outlined in section 45 CFR 46. The original expiration date of the protocol has not changed.

Modifications Approved:

Modifications Approved: Change title from "Book Now, Pay Later (Pilot Study)" to "The effects of temporal distance on booking behaviors" and add rounds 2 and 3

The final versions of any recruitment, consent and assent documents bearing the IRB approval stamp are available for download from IRBManager. These are the versions that must be used during the study.

As Principal Investigator, it is your responsibility to do the following:

1. Conduct this study exactly as it has been approved.
2. Submit a status report to the IRB when requested
3. Promptly report to the IRB any harm experienced by a participant that is both unanticipated and related per IRB policy.
4. Maintain accurate and complete study records for evaluation by the OSU IRB and, if applicable, inspection by regulatory agencies and/or the study sponsor.
5. Notify the IRB office when your research project is complete or when you are no longer affiliated with Oklahoma State University.

Sincerely,

Oklahoma State University IRB  
223 Scott Hall, Stillwater, OK 74078  
Website: <https://irb.okstate.edu/>  
Ph: 405-744-3377 | Fax: 405-744-4335 | [irb@okstate.edu](mailto:irb@okstate.edu)

VITA

YISAK (ISAAC) JANG

Candidate for the Degree of

Doctor of Philosophy

Dissertation: BOOK NOW, PAY LATER: AN INVESTIGATION OF DELAYS IN  
PAYMENTS, TEMPORAL DISTANCE AND INCENTIVE TYPES

Major Field: BUSINESS ADMINISTRATION

Biographical:

Education:

Completed the requirements for the Doctor of Philosophy in Business Administration with a Specialization in Hospitality and Tourism Management at Oklahoma State University, Stillwater, Oklahoma in December 2020.

Completed the requirements for the Master of Science in Hospitality Management at Florida International University, Miami, Florida in 2015.

Completed the requirements for the Bachelor of Science in Foodservice Management at Kyung Hee University, Seoul, South Korea in 2010.

Experience:

Graduate Research Assistant, Edmon Low Library, Oklahoma State University,  
Stillwater, OK, January 2019 – December 2020

Graduate Teaching Associate, School of Hospitality and Tourism Management,  
Oklahoma State University, Stillwater, OK, August 2016 – May 2020

Catering Associate, Celebrations Catering, Oklahoma State University, Stillwater, OK,  
May 2018 – August 2018

Food & Beverage Ambassador, Residence Inn by Marriott, Stillwater, OK, May 2017 –  
August 2017

Graduate Research Associate, School of Hospitality and Tourism Management,  
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