

Full Length Research Paper

Understanding the effect of last name on acquisition timing in China

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This research examines the effect of last name on acquisition timing for Chinese. Previous research suggests that there is a significant negative correlation between the depth of the first letter of surname in the alphabet and response time to acquisition opportunities in Western culture. This research illustrates whether this finding holds in Chinese culture over three studies. We find an opposite conclusion that the earlier in the pinyin alphabet the first letter of surname is, the faster the person responds to acquisition opportunities. We suppose that it lies in the difference between Chinese culture and western. Additionally, this research also expands the concept of “last name” from depth into the alphabet the first letter of one’s last name (pinyin in Chinese system), to number of strokes of first letter of one’s last name and student ID for Chinese subjects, as the stroke is a feature of Chinese name and the student ID is related to the class registers. Findings suggest that there is no significant correlation between number of strokes and response time, and there is a partial significant positive correlation between student ID and response time, indicating the earlier the ID locates in register sheet, students respond quicker.

Key words: The last name effect, acquisition timing, consumer behavior, culture.

INTRODUCTION

There is a daily life phenomenon, maybe you have noticed, that each person has different speed in responding to choice making such as purchasing the stuff they desire or prefer. Some people tend to act fast, especially when the time of purchase is fixed and the amount of discount goods is limited. At the moment they meet the goods they want or prefer, they pay promptly when there is a discount with time pressure no matter whether they need the goods or not; while some people are relatively lackadaisical facing those problems or opportunities. However, there is another phenomenon

maybe you have not noticed, that a friend around you with a surname in pinyin that begins with the letter C in the pinyin alphabet acts faster than another friend with a surname in pinyin that begins with the letter Z facing identical chances or troubles. This phenomenon in Chinese culture is definitely different from Western culture in which the earlier in the alphabet the first letter of one’s surname is, the slower the people act, although the order of both alphabets is same.

This phenomenon may expound an influence on some person that the use of a class registers using alphabetical

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ordering via surname in pinyin creates an unfair class system in school. For instance, students with surnames that begin with letters near the beginning of the alphabet in pinyin suffer inequitable treatment. Their names are at the beginning of the class registers and teachers may notice them firstly when they want to select someone to answer questions or to assign tasks, especially when the tasks are beneficial to the whole class not only to themselves. Those students listed earlier in the class register sheet are always the first person to answer questions, solving puzzles and making contributions such as cleaning up the class, designing blackboard newspapers and making funny tips in front of class. While those with surnames later have much time to prepare for duties and challenges and deal with them later, they maybe do not need to clean up the class through the whole semester. These discriminating treatments during school-days may have latent influence on behavior throughout individuals' life.

In current studies, particularly in psychology, there is a concept, acquisition timing, to illustrate the extent people adapt to the life background. This reveals the speed consumers at which respond to a shopping situation which has a time pressure on consumer behavior. It is important for marketers that the speed responding to restrained opportunities influence outcomes, stocks and the discount of items, which could influence how fast consumers respond to the text messages or emails on bargains when they plan to substitute a new good for the old one which is close to the end of use period or they just attempt to use a new one.

This paper primarily examines one variable, the first letter of surname in the pinyin alphabet in Chinese culture, has a significant effect on acquisition timing in order to verify whether the last name effect holds in Chinese culture. This article also examines the correlation between other variables relating to surname or the class registers and acquisition timing, such as the strokes of surname and the student ID in school. We assume that the correlation is influenced by the unfair class system resulting from the use of class registers to ask questions and assign tasks via factors about one's name. This inequitable treatment throughout the school-days is along with period of formation of one's behavior, maybe it is the consumers' behavior, which is difficult to change in the future and influences choice making especially the choice of purchase. This inequitable treatment causes two different behaviors that those with the first letter of surname early in the pinyin alphabet seem positive and opportunistic in facing fixed opportunities while those with the first last letter seem lackadaisical.

THEORETICAL BACKGROUND

The theoretical framework proceeds in two broad steps. First, we present a detailed conceptualization of the last name effect, showing a general hypothesis about

surname effect on consumers' choice making and the speed of it. Then we discuss the term acquisition timing about when and how fast consumer purchase and pay, and what prims the consumer behavior.

The last name effect

Previous researches in western culture have revealed various impacts that one's name especially the surname can affect one's choice making. The letters belonging to own first or family names are preferred to not-own name letters. This discovery is called the "name letter effect" (Nuttin, 1985).

The name letter effect has been shown for consumers' choice of branding. Btendl (2005) found that respondents were more likely to choose a brand when the name of the brand started with letters from their names than when it did not in five experiments, a result they called "name letter branding". What's more, the name letter effect also can be found in academic success (Einav and Yariv, 2006). That means person also can be appealed to the things that link with their name, implying that they regard the things as themselves. Maybe we can use implicit egotism to explain the effect because most people possess positive associations about themselves (Pelham et al., 2003).

From the above researches, it seems that person can choose things that they like most, but the society does not meet everyone's needs. Both in Chinese and western culture, many situations use an order of surname or ID code to show the order of persons, such as class in schools, the list of winners and the list of editors when there were more than one editor for one book, which will generate a sustained and latent impact on individuals. Thus we suppose that the alphabetical order or the order of student ID impacts the response tendencies.

There is a preliminary founding about the last name effect in western culture, saying that there is a robust effect of one's childhood last name on temporal responses to opportunities and various purchase incentives will be taken up more quickly by those later in the alphabet (Carlson and Conard, 2008). Then Carlson and Conard make a deep study and find that those with late alphabet names are more likely to acquire an item when response time is restricted and they consider that the limited time offers more appealing than their early alphabet counterparts (Carlson and Conard, 2011). But in China, there is little research on the last name effect. The researches merely used the surname as a method of studying in their particular field. For example, Mingyan Chen regarded the pinyin and strokes of one's surname as a method to explore the character of poor undergraduates' implicit self-esteem and she find only the strokes of surname can be used.

Acquisition timing

Mostly, what the marketers concern is not whether to buy

but when and how fast to buy. It is important to know what influences the timing of acquisition. What we already know is that people also postpone making decisions which have various options and there is still a long time before the deadline. If there is time pressure, there is high efficiency.

In western culture, there is a study on some reasons for substantial delay in consumer decision making. They find that the delay reasons are related to the reasons consumers stop delaying, and are also related to the amount of time that consumers spend in different stages of the decision-making process (Greenleaf and Lehmann, 1995). Dhar and Nomlis (1999) further show that time pressure systematically impacts choice deferral by increasing the use of non-compensatory decision rules in the selection decision and by increasing the relative emphasis placed on the unique features in the deferral decision. In addition, in Chinese culture, Wang and Liu (2008) also find that there is a significant correlation between time pressure and purchasing behavior and there is a significantly positive correlation between time pressure and consumers' willingness on purchase in the group-buying (Xianguo Li et al., 2012). Thus, the time pressure impacts the behavior of choice making and may accelerate the acquisition timing.

In consumer behavior, there is another factor influencing consumers' choice that is unconscious or affective goal, maybe we can say it is Pavlovian conditioning, which has motivational properties consistent with goal pursuit but inconsistent with mere cognitive activation (Chartrand, 2008).

Understanding the last name effect and the acquisition timing, we propose that the unfair class system throughout school-days can be regarded as a kind of sustain stimulation that will form fixed habit and behavior, such as the speed of acquisition in purchase. Since there is an obvious difference in name between Chinese culture and western, we propose not only to research the first letter of Chinese surname in the pinyin alphabet, but also to examine the number of strokes of the first letter of surname. In addition, we propose to examine the effect on student ID because this factor is also during the school-days though it has a little change from time to time.

OVERVIEW OF STUDIES

Three studies examine the effect of the depth into alphabet the first letter of one's last name in Chinese system, the number of strokes of first letter of one's last name and the Student ID for Chinese subjects on individuals' acquisition timing. Study 1 demonstrates the basic effect of the depth into alphabet the first letter of one's last name, the number of one's last name's strokes and the student ID on response time to opportunity when the opportunity is fixed in reality. Study 2 replicates the results of Study 1 using a questionnaire research in case

of the non-responders. Study 3 continues the exploration of the influence on last name by a questionnaire from a scenario test.

These studies enable us to make the following claims: First, the surname especially the first letter of surname in the pinyin alphabet influences acquisition time for fixed opportunities to obtain desirable items. Second, individuals with last name beginning with letters early in the pinyin alphabet respond relatively quickly to fixed opportunities to obtain desirable items, while individuals with surname beginning with letters late in the pinyin alphabet respond relatively slowly to the identical situations. There is a significant positive correlation between the first letter of the responder's surname in the pinyin alphabet and the acquisition timing to opportunities. Finally, there is no significant correlation between the number of strokes and response time and there is a partial significant correlation between student ID and response time revealing that students with ID earlier listed in register sheet respond quicker.

Study 1

The main purpose of study 1 was to obtain evidence that individual's temporal response to an opportunity is different and is relating to the first letter of Chinese surname in the pinyin alphabet. The study also examined the effect of surname's strokes and the student ID.

METHOD

In this study 100 undergraduates in two graduate business schools were given the opportunity to participate in an examination on consumer behavior in exchange for a bonus of winning a free ticket to watch the movie, Steve Jobs. There were six free tickets. What they ought to do was to send their information including name and student ID to a designated mailbox after the announcement. The commitment of the free tickets was made at the end of each course to ensure that all the students had an equal opportunity to respond. The sample of 46 respondents consists of those students who have sent the email and get the chance to win a free ticket. Response time was measured by analyzing the difference between the time when the announcement was sent out and the time when each reply was received in minutes. The first letter of subject's surname in the pinyin alphabet, the number of strokes of subject's surname and the student ID for subject were derived from replies. For analysis, the first letter of pinyin of surname was transformed into a number equivalent, for example, A=1; Z=26. The student ID was transformed into a shorter number using the last three digits as the subjects abstracting from the same business schools (i.e. 2011811114=114). We use simple linear regression to analyze the correlation between pinyin, strokes, student ID and response time.

RESULTS

The average response time to the announcement was 1454.2 min. There was an insignificant correlation between response time and the number equivalent of the first letter of surname in pinyin alphabet ($t = -.411, p =$

.683), strokes ($t = .296, p = .769$) and student ID ($t = 1.390, p = .172$). We found that this effect did not reach statistical significance because we have not announced that each email can only represent one person's application when making the announcement. There were some subjects sending information via only one email. Thus, the samples that consist of others' emails should be rejected from the master samples. The sample size became 32.

Using the adjusted samples, the average response time turned into 810.1 min. Importantly, there was a significant positive correlation between surname and response time ($t = 2.024, p = .052$). In sum, these results indicated a last name effect in China for individuals when faced with an opportunity to acquire limited items like movie tickets. That is, participants with surname beginning with letters early in the pinyin alphabet respond relatively quickly to fixed opportunities to obtain items, while participants with surname beginning with letters late in the pinyin alphabet respond relatively slowly to the fixed same opportunities.

The study also revealed that there was no significant correlation between strokes ($t = .254, p = .802$) and response time and there was no significant correlation between student ID ($t = -.195, p = .846$) and response time. Thus, there was no evidence of correlation between strokes and response time, and the student ID either. There was little effect on individuals with lengthy surname or simple surname in Chinese character to acquire items from a limited supply. There also was little effect for individuals with an early student ID or late student ID facing the same situation.

DISCUSSION

These findings provide evidence that consumers' prompt response to a fixed opportunity was different relating to their surname in Chinese culture, especially the first letter of surname in the pinyin alphabet. Individuals with surnames beginning with letters early in the pinyin alphabet responded more quickly than those starting with letters late in the pinyin alphabet facing the same acquisition opportunities based on desirable goods with constrained supplement, for example, six free movie tickets.

This result is definitely different from Western culture in which the later in the alphabet the first letter of one's surname is, the faster the individual responds when the alphabets used are same. We suppose that it may come from the difference in Chinese and western culture. For example, in China where an interdependent culture is mainstream, in order to keep harmonious relationship, students are generally shy and avoid showing off, teachers hence tend to initiate class interaction and assign tasks or duties by calling student names; therefore, students with last name locating earlier in the register sheet are more likely and more frequently to be

assigned duties and challenges. This in the long run acts as a priming or inertia effect and shapes the characters of students with last name earlier to be more aggressive and active, always to keep alert and ready to take challenges. This in turn makes them respond quicker to acquisition opportunities in restricted time period. The difference between Chinese and Western culture of self-construal can be seen in Figure 1.

Study 2

The purpose of study 2 was to replicate the findings of study 1 using a paper-and-pencil questionnaire. Although study 1 had established the last name effect in China and given evidence to reveal the correlation between response time and surname in the pinyin alphabet, we did not assemble information of non-responders in the study. Thus, we cannot gather those subjects' information of exact response time. It was not possible to compare the response time of those who sent the email in the name of themselves to that of those who did not. The last name effect in Chinese culture expects that the response subject should comprise more individuals whose first letter of surname in the pinyin alphabet is always closed to the beginning of the pinyin alphabet than the individuals who do not respond.

Besides, there were several subjects sent their applications together through only one email and there were several subjects sent emails through cell phone, iPad and other mobile internet device (MID). The using of MID has created several extreme data like 1 min from a subject. Thus, we design a questionnaire using semantic differential scale to explore a method, from which every subject in the sampling frame received the information at the same time and replied, to assure that each subject's information can be gathered.

Method

Seventy five undergraduates completed a paper-and-pencil questionnaire in exchange for an average grade and attendance of a Consumer Behavior Course. Participants were asked to read a scenario described previously and answer two questions. The questionnaire asked subjects to assume that they participated in an English training class and were given an opportunity to attend a forum about English in exchange for a free magazine ----The Economist. The scene also assumed that this information was announced at the end of the class and the students who wanted to participate in the forum should send their personal details like surname, cell phone numbers and student ID to the leader's mailbox. After reading the scenario, the subjects answered two questions. The first question was an attraction to attend the forum: "Do the activity to attend

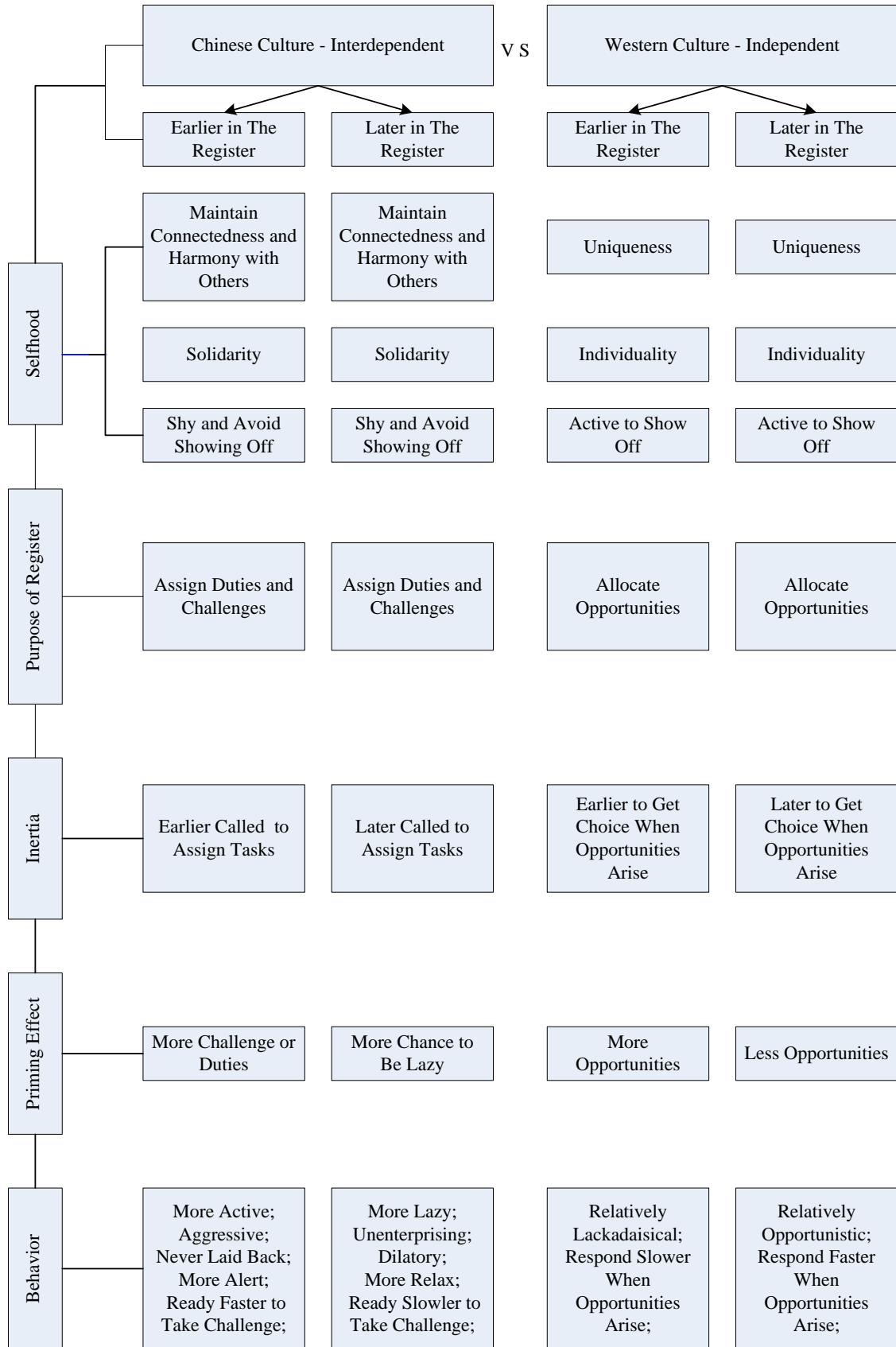


Figure 1. The difference between two cultures.

the forum in exchange for a free magazine attract you?" Responses are designed on 9-point scale (1 =not at all attract; 9 =extremely attract). The second was a question about the pace to reply the announcement: "How quickly will you reply to attend the forum?" Responses also were captured on a 9-point scale (1 =do not reply; 9 =reply at once). Then, the subjects were asked to write down their surname and student number. Different from study 1, the first letter of pinyin of surname was transformed into another number equivalent, for example, A=26; Z=1, to illustrate the correlation easily.

Results

To gather enough evidence for the last name effect in pinyin alphabet in Chinese culture, we tested the surname with response to attraction to attend a rewarded forum and pace to reply from a scene simulation. There was a significant positive correlation between the first letter of surname in the pinyin alphabet and the attraction to attend the forum ($t= 3.052$ $p= .003$), and there also was a significant positive correlation between surname and the pace to reply ($t= 2.233$ $p= .029$). It revealed that those with the first letter of surname early in the pinyin alphabet were more likely to respond to the things that interest them and take action than those late in the pinyin alphabet.

In addition, we found no evidence that there was a significant positive correlation between student ID and the attraction to attend the forum ($t= 0.243$ $p= .808$), and there also was no significant positive correlation between student ID and the pace to reply ($t= 0.916$ $p= .362$). Moreover, the study also revealed that there was no significant correlation between the possibility to attend the forum and strokes ($t= -0.756$ $p= .452$) and relatively significant correlation between the pace to reply and strokes ($t= -1.406$ $p= .164$). In general, the correlation of the influence of strokes and student ID to response time is insignificant.

Discussion

This study gathered more powerful evidence to indicate the effect that surname influences the response time. In a virtual situation, those with surnames beginning with letters early in the pinyin alphabet for Chinese character were more likely to take advantage of the free magazine than those with surnames beginning with letters late in the pinyin alphabet. Thus, the customers with surnames earlier in the pinyin alphabet would make decisions more quickly when customers meet an unrequited and limited deed.

Study 3

In order to reveal the last name effect in Chinese culture

better, we designed another paper-and-pencil questionnaire about purchase and discount to fit the real life of the individuals. As discussed, there was a positive correlation between response time and surname in the pinyin alphabet, and there was no significant correlation between strokes and student ID and response time. It is needed to verify the effect of surname in the pinyin alphabet influencing the response time and to gather more evidences to verify whether there is a significant correlation between strokes and response time and correlation between student ID and response time. We gather more evidences to strengthen the effect of last name on acquisition timing in China. The purpose of this study was to examine this thought by testing the last name effect on a product that has a discount but was given a limited supply.

Method

This study used a new sample of 271 undergraduate students who had completed a survey in exchange for the average grade of a general education elective subject. After reading a short scenario about the discount of shoes of Belle for ladies and the discount of sneakers of Nike for men, the discount is 50 percent and they needed the shoes or sneakers and found the discount by chance while they did not take their purses and they should go back to school for 15 min to get enough money to obtain goods, subjects was asked to assume the situation and to answer two questions. In this scenario, subjects were specially told that the supply was limited, so buying was not just a yes or no option but a purchase decision should be made immediately. After assuming the scenario, subjects were asked to answer two questions. The first was about the appeal of the discount product: "How the discount attracts you?" The options were designed on a 9-point differential scale (1 =not at all attract; 9 =extremely attract). The second was about the possibility to go back to get the purse to buy: "Is it possible for you to go back to get the purse to buy the shoes of sneakers?" The options were also designed on a 9-point differential scale (1 =not at all possible; 9 =extremely possible). Then, each subject wrote down the information especially the surname and student ID. Consistent with study 2, the first letter of pinyin of surname was transformed into the same number equivalent, illustrated as A=26; Z=1.

Results

The results of the first letter of surname in the pinyin alphabet of study 1 and 2 were replicated. Again, there was a significant positive correlation between the first letter of surname in pinyin and acquisition timing. The correlation between surname and the appeal of discount was significantly positive ($t= 3.412$ $p= .001$). Thus,

subjects with first letters of surname early in the pinyin alphabet were more likely to take action on buying discount products than those with first letters late in the pinyin alphabet. There also was a significant positive correlation between surname and the possible to buy the discount product ($t = 2.919$, $p = .004$). It indicates that the subjects with surname beginning with early letters were more likely to buy something discounted and would take action to get it quickly.

There also was a significant positive correlation between student ID and the possible of making purchase decision ($t = 1.675$, $p = .095$), indicating that the subjects with early numbers in the whole student ID frame tended to respond more quickly than those with late numbers. But there was no significant correlation between student ID and the appeal of discount ($t = 0.214$, $p = .830$). We suppose there was a partial significant positive correlation between student ID and acquisition timing. However, there was also no significant correlation between strokes and the appeal of discount ($t = 0.757$, $p = .450$) and no significant correlation between strokes and the desire to buy ($t = 0.548$, $p = .584$).

Discussion

The results of this study confirmed the last name effect in China. This study revealed that the last name effect expanded to the customers' purchase decision-making. This study involved the discount commodities. The studies of individuals with the last name beginning with first letters early in the pinyin alphabet revealed that they would more likely to act on the appealing discount than those late in the pinyin alphabet especially when the opportunity was limited.

We found there is a partial significant positive correlation between student ID and acquisition timing. We suppose that it is related to the class registers and generated from the order of Chinese name in pinyin, when the amount of students became large the teacher came up with a new method to discern the students in order to assign duties or challenges easily, so the student ID follows with the surname in pinyin.

GENERAL DISCUSSION

The studies above reveal a robust effect of the first letter of the last name in the pinyin alphabet on acquisition timing. Individuals with the first letters of surnames early in the pinyin alphabet responded faster than those late in the pinyin alphabet to the same acquisition opportunities. There were some qualifications like time pressure (the time of discount) and the context is real in some studies (movie tickets) and assumed in other studies (paper-and-pencil questionnaire). And the effect occurred under those conditions. It means there is a significant positive

correlation between the first letter of surname in the pinyin alphabet and acquisition timing. It is definitely opposite to the research in western. We suppose that those with the first letters of surnames late in the alphabet are always in adversity missing opportunities and become responding fast to catch the opportunity in western. While the teachers always ask students to answer questions and assign tasks which mean duties and challenges but not opportunities for students relating to the order of class registers which are made by the order of students' surname in pinyin in Chinese culture. Thus, the students with surname early in the class registers facing a situation that they do not have much time to prepare than those late become more positive and initiative when meet challenges and solve puzzles than those late, especially the late in the class registers may not need to complete task like clean up the class. The school-day is also the period to form the behavior. Thus, in Chinese culture, those with surname early in the alphabet (early in the class registers) respond more quickly to acquisition opportunities regarding the responds as a duty or challenge to complete and if they prepare earlier and respond faster, they would complete earlier and feel ease.

Because of the uniqueness of Chinese character, many occasions rely on not only the order of the first letter of surname in pinyin but also the strokes of Chinese character to decide the rank of individuals. The studies also examined the strokes' effect on the acquisition timing. However, above the studies, there is no significant correlation between strokes and the timing of acquisition. We suppose the use of strokes is not frequent in our daily life and the time that we often meet the use of strokes is the situation serious and formal, such as political issues and the order of editors of a book, and strokes have little effect on consumer behavior.

In addition, we examine the correlation between student ID and acquisition timing because the student ID is also an identity to student and is related to the class register. But the correlation is partial significant positive. Sometimes the correlation is positive and sometimes there is no significant correlation. During survey the student ID of some universities, we suppose the generation of student ID is based on surname in pinyin and class, that is, those with the same order of the first letter of last name in the pinyin alphabet will have different order based on student ID, as they are in different class. For example, a student whose first letter of surname (Ding) is D get the student ID 1, while another student who has the same first letter of surname will get the student ID 40, because they are at different class. Thus, the correlation between student ID and acquisition timing is not robust.

Implications

As the acquisition timing is important to marketers and

the surnames of consumer are easy to obtain, the result of this research may be significant relevant for marketers. Marketers regard the acquisition timing as an indicator to determine the outcomes and storage amounts, and specially the amount of discount items. Using the new result of this research, the marketers can propose a schedule to determine the audience of promotion preferentially who early get the information on discount and the duration of promotion. For example, marketers could send message or email to consumer, with the first letter of surname in pinyin early in the alphabet, who will respond faster to the discount opportunities. As the consumer's name is easy to get, the marketers could set up a database relying on consumer's name and form a key consumer group responding fast to the discount.

In addition, the marketers can use this result to improve their push notification service. The marketers can design different frequency to send information of items such as introducing new goods and discount to different customer groups segmented by surname in pinyin. For example, as those with the first letter of surname late in the pinyin alphabet respond slowly to goods information, especially the discount, the frequency of push information to this customer group could be increased rapidly, while the frequency of push information to those early could be decreased. And different language style of content of push information can be designed to different consumer. For example, the marketers can use words such as "clearance sale", "reduction sale" and "the last day for sale" to remind customer to purchase whose location of the first letter of surname is late in the pinyin alphabet, while they can design common language style to those early in the pinyin alphabet.

Conclusion

The research of this article reveals a new finding of the last name effect in Chinese culture, it is different from western, that there is a significant positive correlation between the first letter of surname in the pinyin alphabet and the speed to respond the acquisition opportunities. Those with first letter of surname early in the pinyin alphabet respond faster to the acquisition opportunities than those late in the pinyin alphabet. This effect can be used for marketers to explore the consumer behavior and formulate the marketing program. In addition, there is a partial significant correlation between student ID and acquisition timing and there is no significant correlation between strokes and acquisition timing.

As many marketers focus on the range of the potential customers we think our marketers should focus on the potential customers who will deliver huge benefits not all the customers. Otherwise, the name or the id may be

along with a person in him or her whole life or subtly influence him or her behavior by culture, environment or the person live along with him or her.

Our future study will focus on the relation between student id and acquisition timing and we want to expand the sample of studies and research the relation between acquisition timing and the last name in depth.

Conflict of Interests

The authors have not declared any conflict of interests.

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