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# The in-depth discussion on the promotional activities of reference price indication after the domino effects of consumers' perceived value

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The correlation of customer satisfaction, purchase intention, purchase decision, and brand establishment are recently in-depth discussed in the most of previous studies and further, few studies specifically emphasize on the research of the effects of individual differences of cognition on reference price. This study takes tolerance of ambiguity as moderator variable aiming to examine the impact of different levels of tolerance of ambiguity on consumer cognition as consumers were provided with advertised reference price. The experiment was designed and conducted with the treatment of two factors and two levels. Furthermore, the data gathered was analyzed according to methodology of the t-test and the two-way ANOVA method. Results of this study indicated that offering reference price influenced consumers' cognition of "shopping goods" rather than "convenience goods", the promotion effectiveness of reference price correlated with different levels of tolerance of ambiguity on consumers' cognition of "shopping goods". Particularly, the goal of this study is to cross-analyze the individual differences of consumers and to further explore the correlation among individual differences, and the reference price. According to the results of this study, not only the enterprises are able to make the appropriate marketing strategy for consumers with a wide variety of personality traits and to enormously increase the sales volume.

**Key words:** Reference price, consumer personality, individual cognition, tolerance of ambiguity.

## INTRODUCTION

Due to the impact of the global financial crises, most industries are experiencing a downturn on selling their products nowadays. Under such circumstances, marketers attempt to be more competitive in the market, encountering many rivals who still follow the marketing method. Therefore, a well-developed marketing strategy to compete is necessary and vital. As a rule, price is the major tactic to dominate buyers' choices, namely consumers always make their decisions based on price seriously while they are purchasing goods. Moreover, a number of researches indicated that companies could make a considerable profit on promotional activities.

Accordingly, many companies view price promotion as one of the most crucial strategies. For the purpose of increasing the growth of sales, numerous marketers strive to stimulate and attract consumers to purchase their products through promotional activities, particularly monetary promotion.

For most consumer goods companies, more than 70% of the overall marketing expense was spent on sales promotions (Kotler, 2003). Campbell and Diamond (1990) suggested that monetary promotions were easier to come to customers' sense; furthermore, complimentary gifts for their purchased goods may create extra value to the commodity and contribute as an incentive encouraging continuous purchase in future. Blattberg and Neslin (1989) proposed that an immediate and dramatic up-and-down effect on sales resulted from using price promotion. In addition, it was well known that price promotions

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produced a short-term considerable gain for the brand being promoted (Blattberg and Neslin, 1990). Hence, the utilization of price promotion seems to be the most common marketing strategy, which may contribute to not only attract and stimulate consumers to purchase products but also enhance the consumers' perceived value and purchase willingness. Hence, marketers always intend to strengthen the perceived value of consumers by comparing a lower price with a higher advertised reference price. However, the behavior and cognition of consumers need to be taken into account with an aim of accomplishing the effect of promotion strategy. It is worth exploring if consumers' purchase behaviors would be influenced by their personality trait, such as the Tolerance of Ambiguity ("TOA"), during the promotion period with offered reference price. Thus, these two factors (that is, the TOA and reference price) were explored and discussed in this study. Over the past few decades, there were great deals of studies exploring the influence of price promotion on purchase intention or price perception.

Nevertheless, there are few discussions on the relationship among price promotion, personality trait and consumer perceived value. Based on the previous studies, some findings revealed that consumer with different characteristics would cause different consumers reactions toward price promotion. In addition, personality trait might have bearing on the effect of promotional activities. However, those studies placed more emphases on the personality trait, like the need for cognition and purchase involvement. Within the extensive literature on consumer personality trait, comparatively less research focused on the personality trait – tolerance of ambiguity. According to a related research on the relationship between consumer characteristics and perception of price by Kung and Lai (2006), the findings indicated that price promotion interacted with price perception for consumers with different levels of the TOA. This study was conducted to explore whether the relationship between the way of price promotion, offering reference price, and perceived value would be influenced by the effect of the TOA.

## LITERATURE REVIEW

### Reference price

Reference price is the price which buyers use to compare with the offered price of a product or service. Biswas and Blair (1991) defined the reference price as the price that consumers might perceive while receiving the product information. A reference price was also defined as the standard price against which consumers evaluate the actual prices of the products they are considering (Rajendran and Tellis, 1994). Kalyanaram and Winer (1995) mentioned that a reference price was a norm serving as a neutral point for judging the actual prices.

Furthermore, reference price could be divided into external reference price and internal reference price. Further, Chang (1995) pointed out that external reference price, usually viewed as advertised reference price, was a price that the retailers provided the reference for customers.

Sellers conveyed the information to their customers by advertising or catalogues frequently. In addition, sellers also used a lower sales price and a higher advertised reference price as contrasted so as to enhance the perceived transaction value of consumers (Grewal et al., 1998). This comparative information can be presented by many forms: "was \$X, now \$Y," "compare at \$X," "list price \$X, our price \$Y," "save \$X," and "save X%." Whatever form it took, the comparative information presented or implied a reference price against the offering price (Biswas and Blair, 1991).

The source of external reference price was composed of the following three parts (Della and Monroe, 1981):

- (a) The previous sales price which was provided by retailers.
- (b) The sales price which was provided by competitors.
- (c) The suggested price which was provided by the manufacturers.

According to the foregoing three types of reference price, the first and the second external reference price were widely adopted and the third one was rarely known because the retailer and the manufacturer seldom cooperated with one another (Chang and Liang, 1993). On the other hand, internal reference price was identified that adaptation level of product price existed in the memories of consumers (Chang and Zhou, 1999). Internal reference price was also viewed as the price scale in comparison to actual sales price. According to previous literature, the forms of internal reference price that were published before were aspiration price, the lowest market price, the highest market price, and the fair price (Chang and Zhou, 1999). Puto (1987), Dickson and Sawyer (1990) proposed two sorts of conceptual model to describe the formation of internal reference price.

Puto (1987) noted that the initial internal reference price referred to the coefficients of consumer's expectation and purchasing target to the products. The expectation of consumer was the belief based on the past purchasing experiences and the market price evaluation. The initial price which was formed by price expectation and purchasing target would be influenced by external information including promotional price, prize and punishment to finalize the sales reference price, which was used for the basis of decision making. Moreover, Dickson and Sawyer (1990) considered that consumers would acquire the information of the initial reference price through the purchasing behaviors in their daily life. Consumers would appraise if the price information was a common price or a promotional price while receiving new price information. In case of promotional price,

consumers would search for the prices from other products and notice the price so that the formation of reference price would be affected. Hence, this study integrated the fore-mentioned relative literatures to set up the first research hypothesis:

H<sub>1</sub>: Reference price (provided or not) influences consumers' perceived value.

### **Tolerance of ambiguity (TOA)**

Budner (1962) defined tolerance of ambiguity as "the tendency to perceive ambiguous situations as desirable." The level of the TOA was the ability to tolerate the ambiguous condition throughout the information handling process. For example, people with the low TOA tended to avoid confusion, gave untimely response and were easily to get nervous when facing unfamiliar, complicated or inconsistent clues. On the other hand, people with high TOA regarded the ambiguous situation as a challenge and interest. MacDonald (1970) proposed that individuals with the high TOA, "seek out ambiguity, enjoy ambiguity, and excel in performing ambiguous tasks."

Furthermore, Budner (1962) also mentioned that individuals of the high TOA did not merely accept ambiguous situations but viewed them as desirable. They would not refuse and distort the ambiguous situation or make it more complicated. Under the condition of different uncertainty levels, the level of the TOA accepted by the decision maker was one of the crucial factors that determined the information seeking process and behavior as well as self-confidence (Bunder, 1962). People with the low TOA were deemed to lack self-confidence for judgment. They regarded the uncertainty as the fountain of threats and pressures, thus, they searched for more information to reduce the degree of ambiguity. In addition, the degree of ambiguous tolerance was also defined as a reflection of personal tolerance on certain situation or stimulus and a direction on the lack of clearance. Teoh and Foo (1997) pointed out that tolerance of ambiguity could be viewed as an ability to precisely recognize ambiguity. Furthermore, the researcher believes that the TOA is a significant variable of personality trait which has a great impact on all kinds of common behaviors. Dikanpar and Manash (1997) indicated that the personality trait including tolerance of ambiguity and risk preference were the determinants to decide decision-making behavior of consumers. If the decision makers were risk fanciers with high ambiguous tolerance, they would be more confident on their determination and judgment. The previous studies proposed that the attitude of consumers toward risk and the tolerance of ambiguity were both pivotal factors that influenced their choices if the preference or environment was uncertain (Ghosh and Ray, 1992). Moreover, prior studies further indicated that there were context effects between the attitude and personality trait which meant the risk and the

attitude on the ambiguity were different in accordance with various situations. The scholars invented a model to predict the decision-making behavior of consumers, assuming that the situation is ambiguous. Meanwhile, a research has been done on the impact of the uncertainty of different choices. Consequently, the research findings supported the context effect assumption.

Lichtenstein pointed out that "self-confidence" was a subjective term to evaluate and determine whether things were right or wrong (1989). Many scholars believed the risk decision could not only be assessed and determined by rationality. Meanwhile, some research findings indicated that due to lack of information, people were afraid of undertaking risk if the situation was ambiguous (Heath and Tversky, 1991). Accordingly, self-confidence of a consumer would be influenced by the ambiguous attitude. In other words, people with the low TOA were associated with less self-confidence while making decision. Therefore, this study utilizes the concepts of the TOA of the before-mentioned literatures to establish the second hypothesis:

H<sub>2</sub>: There is a significant correlation between the effect of reference price and different levels of the TOA on perceived value.

### **Perceived value**

Over the past few decades, the customer perceived value was extensively discussed. The definition of perceived value by different scholars and some relevant researches would be introduced and illustrated in the following content. At a general level, many scholars identified perceived value as a judgment or a valuation by the customer of the comparison between the benefits or utility obtained from a product, service or relationship, and the perceived sacrifices or costs (Zeithaml, 1988). In addition, Zeithaml (1988) pointed out that perceived value was the total purchasing experience of consumers through the process of comparing the quality, quantity, subjective factors and objective factors. Monroe (1990) also defined perceived value as the ratio between perceived benefits and perceived price. Moreover, Woodruff and Gardial (1996) referred to perceived value as a trade-off between desired properties with sacrificed properties. Ulaga and Chacour (2001) proposed that perceived value in monetary units was the set of economic, technical, service, and social benefits obtained by a consumer's company to change for the price paid by the consumer. Zeithaml (1988) espoused that perceived value was the consumer's overall assessment of the utility of product (or service) based on perceptions of what is received and what is given. Subsequently, in an exploratory study by Zeithaml (1988), the respondents identified value in different terms. Patterns of responses from the exploratory study can be grouped into four customer definitions of value:

- (a) Value is low price.
- (b) Value is whatever I want in a product.
- (c) Value is the quality I get for the price I pay.
- (d) Value is what I get for what I give.

Hence, based on the foregoing authoritative research, the researcher deemed that the higher value perceived by consumers represents that the consumers derive positive feedback from the products or services. Most of all consumers regard monetary factor as the most determinant factor of cost. While consumers observe that the cost or expense is exorbitant, the perceived value of consumers may decrease. On the contrary, while more benefits are evident by consumers, the perceived value of consumers may increase. The consumers are attributed to the group of high ambiguous tolerance who have more self-confidence on their ability of judgment, thus, they will not search for more information to improve the situation. Consumers with high ambiguous tolerance tend to judge whether the sales price is cheaper or reasonable by their intuition.

Accordingly, this study infers that if the consumers with the high TOA receive the price information, such as advertised reference price, they may consider that the actual sales price is cheaper and their perceived value may be relatively higher. Therefore, the high TOA consumers would be significantly influenced on their perceived value by advertised reference price. On the contrary, the low TOA consumers are more self-centered and less willing to undertake risk. As a matter of fact, they will search for available information to determine whether sales price is reasonable or not in order to reduce the degree of ambiguous condition. Consequently, this study settles the third hypothesis:

With the reference price provided by retailers, the degree of perceived value is higher in consumers with the high TOA than the low TOA ones after organizing the loco citato related literatures.

## METHODOLOGY

This study aimed to investigate the relationship of perceived value of consumers and reference price provided by a retailer, when the customers held different levels of the TOA. In addition, the TOA was identified as the major personality trait in this study. The variables in this study contained the reference price (independent variable), the TOA (moderator variable), and the perceived value (dependent variable).

### Research design

Over the past few decades, many researchers utilized designing experiments to conduct an empirical study in the field of price promotion because experimental design always offered the relationship between cause and effect to researchers. For example, Folkes and Wheat (1995), Coulter (2001), and Thomas and Morwitz (2005) all applied experimental design to carry out their studies. In addition, the variables could be controlled by manipulating the

variation of independent variable and dependent variable systematically. That was the reason why the method of designing experiment was often utilized by researchers. The purpose of this study was to explore the effects of reference price and personality traits on the perceived value of consumers. Thus, this study was carried out with the experimental design of two factors and two levels. The study manipulated two variables including the reference price and the TOA. The manipulation of reference price was divided into provision of reference price and without provision of reference price. The personality traits of a consumer were classified as high level of the TOA and low level of the TOA. In addition, due to the fact that the study was conducted according to the Randomized Two-Group Design, the questionnaires were distributed randomly so that the respondents might not observe the purpose of the experiment. Therefore, each respondent was requested to attend different experiments (provision of reference price and without provision of reference price) and spend 15 min completing the questionnaires.

### Participants and instrument

The data of the study were gathered by questionnaires and the target respondents were composed of 300 college students and 300 Internet users. Nowadays, e-marketing is an issue that is widely discussed by marketers and scholars. Some pioneering companies benefit from selling products via internet. Accordingly, the issue of how to attract internet users is highly stressing. For this reason, this study was with an attempt to explore whether the high or low TOA that internet users possessed would influence their perceived value by providing reference price. Thus, 300 internet users were requested to complete the questionnaires on the website named Mywin. In this study, questionnaire was the major instrument to evaluate the responses of consumers; meanwhile, there were Questionnaires A and B, and either of them, contained thirty items, respectively. In Questionnaire A, the advertised reference prices were disclosed, whereas the advertised reference prices were concealed in Questionnaire B. The questionnaire of this research comprised three sections, including tolerance of ambiguity, perceived value, and subjects' basic information. Meanwhile, the information of two particular products (Communication, Computer and Consumer Goods ("3CG") and Consumer Package Goods ("CPG")) was displayed in the section three to measure the perceived value of the participants. Furthermore, Likert seven-point scale was adopted in this study to evaluate the degree of familiarity of consumers to the product.

### Data analysis

In order to test the hypotheses, SPSS software was employed in this study as a major tool to analyze the data. Independent t-test and two-way ANOVA were performed to test the hypotheses. The controllable variables were the reference price and the TOA. The variables of this study consisted of independent variable (reference price), moderator variable (tolerance of ambiguity) and dependent variable (perceived value). This study was to interpret and analyze the relationship among the variables and further to demonstrate the hypotheses.

## RESULTS

After the process of reliability analysis was performed, the reliability of this research dimension revealed that tolerance of ambiguity (0.717), perceived value to the 3CG (0.883) and perceived value to THE CPG; (0.913) were

**Table 1.** The impact of the effect of reference price on consumer perceived value.

	Provision of RP	Without provision of RP	t-test
PV to 3CG (Overall samples)	M <sub>11</sub> =4.497 (n=282)	M <sub>12</sub> =3.313 (n=262)	-2.871*
PV to CPG; (Overall samples)	M <sub>21</sub> =4.299 (n=282)	M <sub>22</sub> =4.259 (n=262)	-0.390
PV to 3CG (Student)	M <sub>31</sub> =4.482 (n=127)	M <sub>32</sub> =3.418 (n=116)	-2.579*
PV to CPG; (Student)	M <sub>41</sub> =4.415 (n=127)	M <sub>42</sub> =4.357 (n=116)	-0.462
PV to 3CG (Internet users)	M <sub>51</sub> =4.695 (n=155)	M <sub>52</sub> =3.208 (n=146)	-2.638**
PV to CPG; (Internet users)	M <sub>61</sub> =4.183 (n=155)	M <sub>62</sub> =4.161 (n=146)	-0.096

\*p<0.1; \*\*p<0.01; \*\*\*p<0.001

were all greater than 0.7, indicating a high reliability of this research dimension. Further, the measurement of tolerance of ambiguity by Budner (1962) was adopted to measure the moderator variable in this research whilst the dimension of perceived value by Sweeney and Soutar (2001) was used as a reference measuring the variable of perceived value, which gave this research survey a definite level of content validity.

### Moderator variable clustering

There were 16 items in the measurement applied to evaluate the degree of consumers' TOA; according to the definition of TOA on levels by scholars, it was divided into two groups of high and low (Budner, 1962; Reber, 2003). In the measurement of the TOA for overall samples, the scores of the 16 questions yielded from 544 participants were with a median of 64. Then all the participants were divided into two groups; the score greater than 64 was labeled as "1" (categorized as participants with high degree of the TOA) whilst the score less than 64 was labeled as "2" (categorized as participants with low degree of the TOA). Likewise, the method applied to conduct on the TOA in university students and internet users with median of "74" and "77" as the dividing line between high and low.

According to the research findings, the statistical analysis was offered as follows:

Overall samples (F=4.012, p=0.042), university student samples (F=3.499, p=0.062) and internet user's samples (F=4.009, p=0.046). Significant level in the primary effects of offering reference price in the 3CG product achieved where the CPG; failed in (F=0.052, n/s; F=0.213, n/s; F=0.009, n/s).

Based on the results of ANOVA, effects of offering reference price had a significant influence on consumers' perceived value towards the 3CG rather than the CPG. Therefore, in answer to Hypothesis 1, the offering reference price that influenced the consumers' perceived value would only be supported in the perceived value to

the 3CG rather than the CPG; . Therefore, due to the manifest effects of offering reference price on consumer perceived value to the 3CG product, the researcher further performed the post-analysis for reference price provision and non-provision on levels of influence on consumer perceived value to the 3CG. Consulting the statistical results of three sample forms (that is, overall, students, internet users), the researcher found that the effect of offering reference price may bring greater impact on consumers' perceived value than the effects of without offering in Table 1.

With the experimental results, there was a significant correlation between the effect of provision of reference price and the level of the TOA on consumers' perceived value to the 3CG (F=3.944, p=0.049) whereas there was no significant correlation of the CPG; (F=0.255, p=0.614). Subsequently, the results from ANOVA indicated that between the effect of offering reference price and the level of the TOA there was a crucial impact on the perceived value to the 3CG product which means the TOA bore moderate effect on consumers' perceived value to the 3CG as reference price was provided. However, there was no manifest impact on consumers' perceived value to the CPG. Therefore, in reply to Hypothesis 2; a significant correlation between the effect of reference price and different level of the TOA on perceived value would be for the perceived value to the 3CG rather than for the CPG in Table 2. According to the goal and hypotheses of this research, the consumers' TOA could be divided into two groups of high and low TOA in this research to interpret the differences between high and low TOA, and further to understand the influence on perceived value in the condition of provision of reference price and without provision. Considering the analyses of each kind of data (overall sample, university student sample or internet user sample), under the circumstance in which reference price was provided by the retailer, the degree of perceived value was higher in consumers with high level of the TOA than consumers with low level of the TOA. Thus, Hypothesis 3 in this research was supported as expressed in Table 3.

The findings revealed that effects of offering reference price on perceived value would be relatively higher for the high TOA consumers than the low TOA ones.

**Table 2.** The impact of different levels of the TOA on perceived value: Provision of RP.

Provision of RP	TOA	Mean	t -value	p-value
3CG (Overall samples)	High (n=114)	M <sub>1</sub> =4.477	-2.324	0.021*
	Low (n=142)	M <sub>2</sub> =4.143		
3CG (Students)	High (n=60)	M <sub>3</sub> =4.561	-1.995	0.048*
	Low (n=61)	M <sub>4</sub> =4.213		
3CG (Internet users)	High (n=79)	M <sub>5</sub> =4.483	-3.499	0.001***
	Low (n=72)	M <sub>6</sub> =3.838		

\*p&lt;0.1; \*\*p&lt;0.01; \*\*\*p&lt;0.001

**Table 3.** The impact of different level of the TOA on perceived value: Without Provision of RP.

Without Provision of RP	TOA	Mean	t -value	p-value
3CG (Overall Samples)	High (n=123)	M <sub>7</sub> =3.702	-2.760	0.006**
	Low (n=115)	M <sub>8</sub> =3.315		
3CG (Students)	High (n=59)	M <sub>9</sub> =3.656	-1.812	0.073*
	Low (n=51)	M <sub>10</sub> =3.305		
3CG (Internet users)	High (n=70)	M <sub>11</sub> =3.608	-1.884	0.062*
	Low (n=74)	M <sub>12</sub> =3.240		

\*p&lt;0.1; \*\*p&lt;0.01; \*\*\*p&lt;0.001

## Conclusion

With the aforementioned findings, this research found that when facing a product of high unit price (example, the 3CG), the effect of reference price (reference price offered or not) showed a highly patent influence on consumer's perceived value. Providing reference price would influence consumers' perceived value greater than without providing reference price. That is to say, while retailers were going to make a marketing decision to high unit price product, providing reference price for the consumer would stimulate and attract consumer buying products. With the method, the consumer might believe that the value of purchased product exceeds the price that they paid. In contrast, when facing products of low unit price (example, the CPG;), no significant impact was shown in the effect of reference price (provision and without provision) on consumer perceived value namely in the condition of low unit price product marketing decision making, reference price provided by the retailer would not aspire much reactions from consumers in making purchases.

Due to such differences in perceived value to distinct products, this research deemed that from the perspective of price demand flexibility, the price demand flexibility in luxury goods such as the 3CG is greater than one,

indicating any small fluctuation in price would cause a large fluctuation in product demands which meant the aspiration of consumer purchase willingness in believing the product price was something of exceptional value which exceeded its labeled price; the CPG;, on the other hand, was a kind of commodity with price demanding flexibility less than one; thus even under large price fluctuation, product demands remained within a limited scope. Nevertheless, the level of consumer purchase willingness was not enthusiastic despite the CPG which was shown in the questionnaire, with provision to reference price.

In addition, the researcher used the TOA as a moderator variable to precede the analyses. From the results, as to the promotive effect of reference price over the TOA, the TOA influenced the perceived value over high unit price products. Moreover, the perceived value of the high TOA customers was notably higher than that of the TOA ones when it came to the reference price with or without promotive effect, namely, whether the customers were able to take up the stimulus from the environment and shortage of clear concept would effectuate the reference price and render the customers to underestimate the price. On the contrary, when consumers were dealing with low price products, such as the CPG, the consumers' TOA had no bearing on the promotive effect of reference price and perceived value. It was concluded

that high unit price products were usually considered as a resource of threat and pressures, thus, the high TOA customers were deemed more confident of their judgment during the decision making and did not search for more information to reduce the ambiguities. Accordingly, the high TOA customers would underestimate the price of the product under the promotive effect of the reference price because they failed in retrieving necessary information and were over self-confident. However, the low TOA customers tended to be more self-centered and more unwilling to take risk and therefore, the promotive effect of reference price would not lead them to underestimate the price. As far as low price products, price was no longer regarded as a resource of threats and pressures by individuals; therefore, the TOA did not influence perceived value of the customers noticeably.

### LIMITATIONS AND SUGGESTIONS

This research is limited on human resources, material resources, time constraint and research scope, thus it is not sufficient enough to explore various levels of relative parameters. The limitations of research scope are summarized thus:

(a) Samples used in this research were college students and internet users. The results from this research were only suitable for descriptive comments on the characteristics of test subjects and the results were not yet eligible to be applied unto the entire population due to its questionable nature.

(b) This research focused on experimental designs of the 3CG and the CPG; products in the representation of products of high and low unit price. As for research products, scopes covered in this research were not extensive enough and the result could only apply unto other products of similar category and content.

(c) Test field condition of this research was not equal to real promotion condition. Condition treatments were illustrated by merely pictures and words, therefore comments from the subjects within the lab condition might differ from comments from the real retail store conditions.

In summary, after conducting the research, the researcher would like to offer some suggestions to future research. For one thing, the major subjects in this research are composed of college students and internet users. Afterwards, if researchers intend to do follow-up researches on test subjects, it will be suggested that the perimeter of the test subjects should be broadened in the field survey from students onto others. For another, the moderator variable framed in this research was merely a personality trait and tolerance of ambiguity. Addition of other relative moderator variable such as levels of product moderation, perceived risk and various factors in future researches are anticipated.

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