

# 중국 시장의 신제품 사전예고 정보 속성의 중요성에 관한 연구: 제품 지식과 제품 혁신성의 조절역할을 중심으로

## A Framework Exploring the Pivotal Role of Preannounced Information Attributes in the Chinese Market: Moderating Effects of Product Knowledge and Product Innovativeness

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### 요약

정보타겟 고객에게 신제품을 사전 예고하는 것은 다양한 산업, 특히 제품 진입 속도를 매우 중요하게 여기는 산업에서 점차 널리 퍼져 있다. 본 연구는 마케팅 신호 이론에 기반하여 신제품에 대한 사전예고 정보와 개인 고객의 행동적 의도 간의 관계를 파악하여 연구 모델을 제시하였다. 또한, 본 연구는 사전 제품 지식과 신제품 혁신성의 유의한 조절 효과도 더불어 확인하였다. 이에 따라, 데이터 수집을 위한 웹 기반 조사를 실시하고 구조 방정식 모델을 이용해 데이터를 분석하였다. 연구 결과에 의해 신제품 사전예고의 정보 속성(즉, 정보량, 명확성)이 소비자의 태도에 긍정적 영향을 미칠 것이며, 더 나아가 구매의도에 긍정적 영향을 미칠 것을 알 수 있었다. 또한, 제품 지식과 제품 혁신성의 조절효과도 검증되었다. 구체적으로 제품 지식은 정보량과 태도 간의 관계에 긍정적 조절 효과를 미칠 것이며 명확성과 태도 간의 관계에 부정적 조절 효과를 미칠 것이다. 반면, 제품 혁신성은 이와 정반대된 결과를 보여주었다. 마지막으로 본 연구의 시사점과 한계점도 모두 기술하였다.

■ 중심어 : | 신제품 | 사전 예고 | 정보의 량 | 정보의 명확성 | 제품 지식 | 제품 혁신성 |

### Abstract

Preannouncing a new product to its target audiences has been more and more prevalent in a wealth of industries, particularly industries that attach great importance to the speed of entry. Grounded in market signaling theory, the current research advances a theoretical model that takes full cognizance of the relation between preannounced information about an upcoming product and individual customers' behavioral intentions as well as significant moderating effects of prior product knowledge and new product innovativeness. In response, a web-based survey is conducted for data collection and the structural equation model is utilized for data analysis. Results of this study demonstrate that preannounced new product information attributes (i.e., quantity, clarity) may positively influence consumers' attitudes, in turn, lead to a favorable purchase intention. Moreover, the moderating effects of product knowledge and product innovativeness are also confirmed. Specifically, product knowledge moderates the quantity-attitude relation positively and moderates the clarity-attitude relation negatively, whereas product innovativeness does opposite. Both implications and limitations are also described.

■ keyword : | New Product | Preannouncements | Information Quantity | Information Clarity | Product Knowledge | Product Innovativeness |

## I. Introduction

New products have been treated as not only stimulus of novelty or variety due to that new products may present consumers with innovative features such as packages, appearances, and others [1], but also a predominant tactic for accelerating the firm's profitability and expanding into new markets [2]. To this end, more and more researchers as well as marketing practitioners have overemphasized the importance of new product development processes[2][3]. A good example of this is that a rash of firms invest as much as 20% of their revenues in new product development[3]. Nevertheless, owing to comparatively high cost and risk, short life cycles of products, and turbulent competitive environments, both new product development and adoption have been viewed as a high-risk marketing activity[4]. To attenuate new product failure rates and survive in a dramatically changing environment, preannouncements have been applied as a pervasive strategy for helping consumers achieve a favorable adoption of the new product in many industries, especially technology-intensive industries (e.g., cars, computers, telecommunications)[5][6]. It is disclosed that more than 50% companies choose to carry out the strategy of preannouncement when prelaunching a new product in the United States[6]. For instance, the BMW preannounced a series of messages associated with the BMW Z3 which was used by James Bond in the movie before it was launched formally[7].

The new product preannouncement (here-in-after referred to as NPPA) refers to a firm's formal announcements directed at specific audiences such as customers,

competitors, and distributors before a forthcoming product is launched actually [5][7][8]. To yield a better understanding of processes of new product adoption, NPPAs have been conducted by marketers in a plethora of arenas because of numerous positive outcomes of NPPAs. For example, NPPAs may motivate customers to wait for the preannounced product instead of purchasing products that are actually available in the current marketplace [9]. Likewise, preannouncements can help firms garner greater support from both suppliers and distributors, and then lead to a successful market penetration for the new product[10]. In addition, preannouncing a new product is conducive to creating a favorable new product acceptance[8] and to precipitating the diffusion of upcoming products[5]. Based on prior work on NPPAs, researchers have mainly made efforts to scrutinize NPPAs from perspectives of preannouncement recipients (i.e., individual customers), preannouncement senders (i.e., companies), and competitors[5][11-13]. From a standpoint of firms, reference[12] denotes that delivery of NPPA messages may moderate the relation between product characteristics (e.g., the product newness) and firm characteristics (e.g., the firm size). Whereas, from a consumer's viewpoint, empirical research findings from reference[13] reveal that different construal levels of products under NPPAs may lead to consumers' divergent evaluations of the preannounced product. Moreover, it is construed that perceived characteristics of preannounced information (e.g., hostility, credibility) are significantly associated with competitors' reactions to announcement signals [11].

It is clear that the existing studies on NPPAs are still scant, especially there is still an

immense dearth of theoretical research concerning NPPAs information itself. To fill this research lacuna and provide with more theoretical underpinnings, drawing upon market signaling theory, this article develops a theoretical framework that captures the pivotal effect of NPPAs information attributes on consumers' buying decisions. Moreover, the current study is almost the first time to examine the moderation effects of product knowledge and product innovativeness on the relation between NPPAs information and consumers' decision making. In response, several research purposes are formulated. First, this study conceptualizes and operationalizes several primary constructs so as to present a clearer understanding of these concepts in the area. Second, this article is an effort to explore how NPPAs information attributes determine consumers' decision making. Lastly, this study is designed to investigate the moderation effects of consumers' product knowledge and new product innovativeness in the context of NPPAs. Accordingly, a follow-up research stream is organized. This article begins by teasing out extant literatures as to NPPAs and retrieving theoretical foundations from signaling theory. A conceptual framework is then developed and methodologies as well as hypotheses testing results are described in the next section. At last, the study ensures both theoretical and managerial soundness as well as limitations and directions for future research. Detailed organized research stream appears in [Table 1].

**Table 1. Organized Research Stream Summary**

Research Stream	Summary
Research Background	<ol style="list-style-type: none"> <li>1. More and more researchers as well as practitioners have overemphasized the importance of new product development.</li> <li>2. As a significant strategy for reducing new</li> </ol>

	<p>product failure rates, NPPAs have been applied in numerous industries.</p> <ol style="list-style-type: none"> <li>3. The existing studies on NPPAs are still scant, especially studies on NPPAs information itself.</li> </ol>
Research Objectives	<ol style="list-style-type: none"> <li>1. To conceptualize and operationalize primary constructs so as to present a clearer understanding of these concepts in the area.</li> <li>2. To explore how NPPAs information attributes determine consumers' decision making.</li> <li>3. To investigate the moderation effects of consumers' product knowledge and new product innovativeness in the context of NPPAs.</li> </ol>
Methodology	<ol style="list-style-type: none"> <li>1. The descriptive analysis is conducted to confirm demographic characteristics of respondents.</li> <li>2. The confirmatory factor analysis and Pearson correlation test are conducted to examine the construct validity and reliability.</li> <li>3. The path analysis is conducted to test H1a, H1b, and H2.</li> <li>4. The hierarchical analysis is conducted to test H3a, H3b, H4a, and H4b.</li> </ol>
Results	<ol style="list-style-type: none"> <li>1. Both information quantity and clarity relate positively to consumers' attitudes, in turn, positively relate to purchase intention.</li> <li>2. Product knowledge significantly moderates the quantity-attitude relation, whereas product innovativeness does opposite.</li> <li>3. Product innovativeness significantly moderates the clarity-attitude relation, whereas product knowledge does opposite.</li> </ol>

## II. Literature Review and Hypotheses Development

### 1. New Product Preannouncements and Signaling Theory

As a crucial marketing strategy for motivating the market entry of new products, the new product preannouncement has been employed in a vast assortment of domains such as marketing, social psychology, economics, communication, and so forth[5][10][14][15]. Marketing practitioners undertake the NPPA as a formal marketing action for a slew of reasons, NPPAs can provoke strong expectations and curiosities from customers[16], advance customers' adoption of the new product and precipitate a further diffusion of the new product[5], yield a favorable word-of-mouth from market mavens[17], augment an

accessibility to a plethora of distribution channels[18], and encourage an establishment of dominant standards in a specific sector[19].

The NPPA is conceptualized as a firm's planned communication of signaling some psychological or virtual information about a new product to the targeted audience (e.g., customers, competitors, investors, distributors, suppliers, etc.) in advance of its official availability for delivery[7][8][20]. On grounds of extant studies on NPPAs, a multitude of researchers have made efforts to label the variant antecedents and consequences of preannouncing a new product to the information receivers. For instance, reference [7] places a great emphasis on several presumable drivers of the preannouncement timing such as customers' switching costs and lengths of the purchase cycle, the forecast horizon and the relative advantage of the new product, and the extent of cannibalization of the company. In this vein, reference[14] teases out some critical determinants of preannouncing behaviors such as the market dominance of the firm, the partner power, and the interfunctional coordination the firm when expounding the phenomenon of delay in preannouncing a new product. Furthermore, the major research findings on consequences of NPPAs reveal that conveying some specific messages about a new product to signal receivers may exert influence on the firm's financial returns, the consumer's evaluations of the new product, and the stock market return [8][10][13].

From the light of reference[5], preannouncing behavior is a typical manifestation of market signaling, hence, it is obviously critical to understand what is the signaling theory and

how a signal directed at the signal receivers such as individual customers, channel members, and potential competitors when exploring NPPAs. Signaling refers to the asymmetric dissemination of information between two or more parties, which is mainly applied by researchers who majoring in communications, marketing, or economics[21]. Rather, signaling theory is largely typically centered on whether and how an information sender (i.e., a company) conveys information (i.e., a signal) to an information receiver (i.e., individual customers, competitors, distributors, etc.)[10]. Initial academic work of signaling theory directs focus on the job market and mainly make efforts to explore the correlations between the signal (i.e., the employee education) and the employee job performance [21]. More recently, a wealth of research on signaling theory with economics and marketing turns to extensive domains of the competitive behavior[22], the individual consumer[13], and the corporate shareholder[8].

## 2. New Product Preannouncement Information Attributes

There exist diverse forms of NPPA information such as verbal information, written information, and visual information, which directs a significant influence on individual customers' interpretations for the signal[12]. Relatedly, marketing practitioners vary a tremendous range of contents of NPPA information, for instance, product features[23], introductory price of the new product[15], future availability[24], to fuel customers' interests and to bolster consumer learning for the most part[5]. Moreover, present academic

work on NPPA sheds light on the predominant influence of NPPA information features on information processing and strongly relevant outcome variables[25]. That is, from the light of attribution theory, information receivers are prone to making some inferences about information senders' intentions and establishing further attitudes toward the information carrier [25]. More discussions about correlations between NPPA information attributes and consumers' behavioral intentions are conducted in more detail in the next section. Given the above discussions, to develop a favorable conceptual framework investigating the relations between NPPA information features and consumers' decision making, the present study adopts two attributes of NPPA information that are closely pertinent to information receivers' (i.e., individual consumers) responses to and interpretations of the NPPA information itself: the NPPA information quantity and the NPPA information clarity.

### 2.1 NPPA Information Quantity and Individuals' Performance

A preannouncing firm strives to decide on the amount of NPPA messages for early announcements and the sequence of NPPA information dissemination in advance of launching a new product, relying on how much NPPA information is preannounced to enable a favorable adoption of the new product[15][26]. The NPPA information quantity refers to the sheer amount of information about an upcoming new product, which is communicated to its target audiences in advance of a formal availability of the new product[27][28]. The

existing research has presented a substantial amount of empirical evidence on the relationships between information quantity and related positive consequences. Reference[29] makes a statement that ample information may result in a greater individual-level decision as well as the reflection of heterogeneous needs and preferences of consumers in the classical economic context. In this vein, a large quantity of information from the source may lead to a more precise reception[12] and a higher degree of accuracy in judgments of the target[27]. From a different standpoint, the major findings on barriers to internet shopping by reference [28] reports that an inadequate accessibility to specific information about the product may pose a negative purchase intention on the product.

In respect of consumers' judgments and decision-making, the amount of information derived from the signal sender (i.e., the firm) is positively associated with amicable judgments for the product[30]. Aligned with this, the amount of information that is recognized by individual customers from a specific point plays a pivotal role in the performance (e.g., the decision quality, the preference consistency, the purchasing decision, etc.) of individuals[28][31]. Furthermore, building on prior literatures on cognitive processing theory, along with a large volume of preannouncing cues in the information, the information receivers (i.e., individual consumers) are more likely to constitute a more favorable attitude toward the certain product[12] as well as an unambiguous understanding of the upcoming new product [31]. Parallel to aforementioned discussions, the current study postulates that the more amount of NPPA information (i.e., the NPPA information

quantity) derived from the preannouncing firm will lead to a more favorable attitude towards the preannounced new product. Accordingly, the following hypothesis is put forward.

H1a. NPPA information quantity is positively associated with consumers' attitudes toward new products.

## 2.2 NPPA Information Clarity and Individuals' Performance

The NPPA information clarity is, herein, conceptualized as the extent to which the targeted audiences perceive information related to a forthcoming new products clear and understandable without equivocality or uncertainty when preannouncing a new product by the firm[32-34]. Although several companies may intentionally preannounce some comparatively ambiguous or equivocal NPPA information about the upcoming new product for the sake of confusing competitors and advancing consumers' expectations for the new product[20], many of studies on NPPAs have accentuated the importance of information clarity. For example, an exchange theory elaborating on interpersonal interactions as well as uncertainty management theory asserts that information that is high in clarity may eliminate the uncertainty of the information itself[35], and thus, facilitate the persuasiveness of the information[12]. In other words, as an intrinsic information feature, the clarity of preannounced information helps customers identify the similarity of and the correlation among a series of similar products, in turn, differentiate the new product from closely similar others[12]. In this regard, the more clear

and comprehensive information of a new product may not only stimulate the consumer's cognitive processing of preannounced information[29], also prompt a perception of more punctual causal attribution[36].

Perceived information clarity is viewed as a creative strategy for helping develop a favorable acceptance of the new product[12] and revising consumers' portfolio plans[37] so as to shape customers' consumption behaviors. Following the similar line of reasoning, scholarly findings from reference[34][38] place a greater emphasis on significantly positive influence of information clarity on consumers' attitudes and behavioral intentions. From the viewpoint of theory of planned behavior (TPB), consumers' attitudes toward specific targets (e.g., products, services), together with ensuing intentions, consequently, determine individuals' performance (e.g., purchasing behaviors)[39]. Moreover, the market signaling theory supports the argument that individual customers who are considered as a signal receiver establish the attitude towards a preannounced product by means of interpretations of a signal, accordingly, decide whether or not to take purchasing actions[15]. Against this backdrop, this article presumes that the NPPA carrying more clear and understandable cues of the upcoming product is conducive to helping individual consumers develop an amicable attitude towards the new product, in turn, motivating a purchase intention on the preannounced product. The following hypotheses are presented accordingly.

H1b. NPPA information clarity is positively associated with consumers' attitudes toward new products.

H2. Consumers' attitudes toward new products are positively associated with purchase intention.

### 3. The Moderating Effect of Product Knowledge

As a crucial variable in consumer behavior, consumers' prior product knowledge exerts influence over search for information as well as judgments of a product[40]. Product knowledge refers to amassed information that incorporates functional features of and brand disparities on the product and prior experience relevant to the product[41][42]. Taking a step forward, numerous researchers report that consumers' product knowledge embraces the objective knowledge (i.e., the amount of precise product knowledge mastered by consumers) and the subjective knowledge (i.e., consumers' self-perceptions of product knowledge)[43][44]. Consumers tend to make a judgement of the product, in turn, reach a buying decision relying on prior product knowledge rooted in their memories when facing a large volume of product alternatives[1]. To restate, Familiarity with the product class (i.e., existing product knowledge) is conducive not only to accelerating consumers' acquisition of new product information[44], also to helping consumers retrieve prior information from their memories when making a purchasing decision [43]. Conversely, consumers may suffer a massive confusion in absence of sufficient prior product information as well as product-related experience when selecting a new product[1].

On the basis of previous literatures in the area, consumers' product knowledge is most often identified as a moderator to explore the relations between variant message-level

constructs and consumer-level constructs. For instance, reference[45] sheds light on the pivotal role of product knowledge which moderates the relationship between effectiveness of advertising terminologies and consumers' attitudes toward advertisements. In addition, empirical research findings from reference[46] report that prior product knowledge may influence the association between intangibility of the product and consumers' perceived risk in an online shopping setting. Seen in this light, individuals' existing knowledge may have an impact on individuals' attitude development and buying behaviors when making a purchase choice of the new product[47]. Likewise, when an individual makes a judgment of a new product, individuals who perceive more product knowledge may hold greater confidence and more favorable product attitudes than others [40]. As suggested above, a divergent level of consumers' product knowledge may lead to a distinct consumer's perception of preannounced information, in turn, generate a different product attitude. The aforementioned discussion supports both H3a and H3b.

H3a. Consumers' product knowledge positively moderates the quantity-attitude relation.

H3b. Consumers' product knowledge positively moderates the clarity-attitude relation.

### 4. The Moderating Effect of New Product Innovativeness

New product innovativeness is seen as a concept that reflects the newness or novelty of a new product and keeps a high profile within both top managers and researchers in the area.

New product innovativeness herein is conceptualized as the extent to which a new product provides with new and unique features differ from competing alternatives' in the product class in a way that can fulfill consumers' desires[48-50]. Many of studies on product innovations have emphasized both the importance of product innovativeness and positive consequences of innovations[1][48][51]. A good example of this is that consumers are still willing to spend heavily on high-innovative gadgets such as smart phones and e-book readers even during a period of economic depression[1]. Moreover, as an imperative driver of successful adoption of the new product, new product innovations are positively associated with the firm's financial performance as well as the new product performance[1]. For example, an empirical study by reference[52] confirms the significant influence of new product innovativeness on a relation between effective coordinations of organizational members and outcomes of a new product development process. Following the same line of reasoning, the favorable perception of new product innovativeness can be translated into an advanced adoption of the new product, and then lead to a strong purchase intention [1][53][54]. That is, the perceived level of new product innovativeness may determine whether NPPAs information attributes can entice consumers to purchase a new product[54]. In response, the following hypotheses are formulated and the conceptual framework is illustrated in [Figure 1].

H4a. The product innovativeness positively moderates the quantity-attitude relation.

H4b. The product innovativeness positively moderates the clarity-attitude relation.

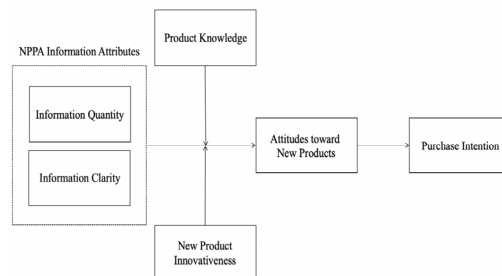


Fig. 1. Conceptual Framework

### III. Methodology

#### 1. Instruments

For this study's constructs, five-point Likert scales (1 = strongly disagree to 5 =strongly agree) are applied. Measurement items of all variables are presented in Table 2. Among them, the preannounced information quantity is referred to the study of reference[55], and the preannounced information clarity is revised from the items suggested in the study of reference[34]. Consumers'attitudes toward new product is modified by reference[32], and purchase intention incorporates questions from reference[58]. Moreover, consumers'product knowledge is adapted from references[56][40], and Lastly, new product innovativeness is adapted from reference[57]. Demographic information is measured through a total of 4 questions consisting of respondents' gender, age, types of new product preannouncements, and their manifestations.



Table 2. Measurement Items

Variables	Measurement Items	References
Quantity	I think preannounced information is sufficient enough I think preannounced information is extensive enough I achieved a better understanding of the product via preannounced information	[55]
Clarity	I think preannounced information is clear enough I think preannounced information is concrete enough I think preannounced information is understandable enough I think preannounced information is credible enough	[34]
Product Knowledge	I learned about other products in the same product class I learned about similar products from other brands I think my knowledge of other products in the same product class is adequate I think my knowledge of similar products from other brands is adequate I rely on my product knowledge to evaluate or judge the product	[56,40]
Product Innovation	I think the product offers new features to customers I think the product is different from competitive products in the market I think the product is of higher quality I think the product offers unique features to customers	[57]
Attitude	I think the product is beneficial enough I think the product is good enough I think the product is favorable enough I would like to keep paying attention to the product I would like to communicate the product to others	[32]
Purchase Intention	I think it is right to purchase the product I would like to try the product when it is available I would like to purchase the product when it is available I would like to recommend the product to others	[58]

## 2. Survey Design and Data Collection

The study utilizes one of the largest online survey platforms in China called SOJUMP to collect the primary data (<https://www.wjx.cn/>), as this platform is employed by numerous scholars[58]. The platform is responsible for inviting eligible respondents to fill out our questionnaire, and four preset questions are used to screen out the respondents who actually have not viewed a new product preannouncement automatically. A total of 320 samples are collected through a preliminary survey, and 303 samples (94.7%) are finally used, except for 17 of the unfaithful responses. Moreover, frequency analysis, reliability analysis, correlation analysis, and moderation analysis are conducted by SPSS 22.0. Drawing upon a structural equation model, both confirmatory factor analysis and hypotheses examinations are executed by AMOS 24.0.

## 3. Descriptive Statistics of Samples

Table 3. Demographic Characteristics

Characteristics	Items	N	Valid Percentage
Gender	Male	108	35.6
	Female	195	64.4
Age	20 Years Old and Below	5	1.7
	21 to 30 Years Old	193	63.7
	31 to 40 Years Old	74	24.4
	41 to 50 Years Old	25	8.3
	51 Years Old and Above	6	2
Types of NPPAs	Technological Products	170	56.1
	Activities	54	17.8
	Spiritual Products	50	16.5
	Daily Necessities	27	8.9
	Others	2	0.7
NPPA Manifestations	Print Advertisements	67	22.1
	Video Advertisements	149	49.2
	Pre-Release Conferences	84	27.7
	Others	3	1

The demographic characteristics appear in [Table 3]. The bracket of gender is 108 males (35.6%) and 195 females (64.4%) respectively. For age, the majority of respondents are 20-40

Table 4. Confirmatory Factor Analysis Results

Variables	Items	Standardized Weights	Variiances	S.E.	C.R.	CR	AVE
Independent Variables	Quantity1	0.89	0.27				
	Quantity2	0.89	0.30	0.04	27.92	0.89	0.73
	Quantity3	0.88	0.29	0.04	26.63		
	Clarity1	0.88	0.28				
	Clarity2	0.77	0.37	0.04	19.03	0.89	0.66
	Clarity3	0.83	0.37	0.04	22.47		
	Clarity4	0.79	0.37	0.04	20.16		
Mediator	Attitude1	0.87	0.33				
	Attitude2	0.84	0.34	0.04	24.06		
	Attitude3	0.85	0.27	0.03	25.09	0.92	0.69
	Attitude4	0.83	0.37	0.04	23.65		
	Attitude5	0.85	0.34	0.04	24.85		
Moderators	Knowledge1	0.86	0.34				
	Knowledge2	0.71	0.47	0.04	16.18		
	Knowledge3	0.81	0.31	0.04	20.90	0.89	0.62
	Knowledge4	0.74	0.53	0.05	17.32		
	Knowledge5	0.87	0.30	0.04	25.49		
	Innovation1	0.88	0.29				
	Innovation2	0.70	0.53	0.05	15.04	0.87	0.63
	Innovation3	0.87	0.30	0.04	25.67		
Dependent Variable	Innovation4	0.80	0.47	0.04	20.80		
	Purchase Intention1	0.87	0.33				
	Purchase Intention2	0.82	0.49	0.05	21.56	0.89	0.67
	Purchase Intention3	0.84	0.30	0.04	22.91		
	Purchase Intention4	0.87	0.30	0.04	26.02		

CMIN=208.85,DF=98, CMIN/DF=2.13, RMR=0.03, RMSEA=0.06, GFI=0.93, NFI=0.90, CFI=0.95, IFI=0.95.

years old (n=267, 88.1%), which is aligned with purposes of the current study due to that young adults are more inclined to receive information through internet or mobile devices. Regarding types of NPPAs, 170 (56.1%) respondents viewed preannouncements of technological products, and next, 54 (17.8%) are activities, 50 (16.5%) are spiritual products, 27 (8.9%) are daily necessities, and only 2 (0.7%) are others. Lastly, regarding NPPA manifestations, the bulk of respondents who viewed video advertisements are 149 (49.2%), and next, print advertisements are 67 (22.1%), pre-release conferences are 84 (27.7%), at last, others are 3 (1%).

#### 4. Construct Validity and Reliability

Construct validation incorporates tests for content, convergent, and discriminant validity.

The content validity ensured in this study follows instruments which are mainly adopted from the extant literatures. For confirmatory factor analysis, a maximum likelihood method is used to assess both convergent and discriminant validity of the factor structures (see [Table 4]). The analysis results reveal that measurement models of each construct are significantly acceptable (CMIN/DF = 2.13 < 5, CFI = 0.975 > 0.9, GFI = 0.93 > 0.9, NFI = 0.9 = 0.9, RMSEA = 0.06 < 0.10)[60]. The standardized loadings for all constructs are also significantly acceptable at advised level of 0.6. In addition, the composite reliabilities for information quantity (0.89), information clarity (0.89), attitudes toward the product (0.92), product knowledge (0.89), product innovation (0.87), and purchase intention (0.89) all exceed 0.7, thus, reporting a significant internal consistency of

constructs. Lastly, the squared root values of AVE of each construct are higher than all corresponding correlations [Table 5], which providing with further evidence for a significant discriminant validity[61][62].

**Table 5. Pearson Correlation Test Results**

Factors	1	2	3	4	5	6
1 Quantity	0.85					
2 Clarity	.63**	0.81				
3 Knowledge	.58**	.56**	0.79			
4 Innovation	.45**	.53**	.58**	0.79		
5 Attitude	.66**	.67**	.68**	.67**	0.83	
6 Purchase Intention	.56**	.57**	.64**	.72**	.72**	0.82

## 5. Difference Comparison

**Table 6. Comparison of Respondents' Differences Based on Types of NPPAs**

Types of NPPAs	Technology	Others	Mean Difference	<i>t</i>	<i>p</i>
	Mean	Mean			
Information Quantity	4.04	3.90	0.14	1.83	0.07*
Information Clarity	3.97	3.88	0.09	1.30	0.19
Product Knowledge	3.93	3.85	0.08	1.16	0.25
Product Innovation	3.69	3.73	-0.05	-0.60	0.55
Attitude	3.98	3.86	0.12	1.79	0.07*
Purchase Intention	3.74	3.79	-0.04	-0.59	0.56

This study selects the comparison of respondent's differences based on the types of NPPA for further analysis, in which 170 (56.1%) respondents viewed preannouncements of technological products, and 133 (43.9%) respondents viewed other types of preannouncement such as activities or spiritual products. A independent sample T-test is used to examine the difference between information quantity and clarity, product knowledge and innovativeness, attitude towards new products, and purchase intention according to the two

groups. As shown in [Table 6], the results show that the difference exists between technology and other products in terms of information quantity and attitude towards new products. Yet any other significant difference is not existing in other variables. That is, for the information quantity, compared with other types of preannounced products ( $M = 3.90$ ), the technological products ( $M = 4.04$ ), which is found to be 1.83 for  $t$ -value and 0.07 for  $p$ -value at 90% confidence level. Thus, consumers who viewed the technological preannouncements evaluated the information quantity better than other consumers. Similarly, for the attitude towards a new product, compared with other types of preannounced products ( $M = 3.86$ ), the technological product's preannouncements ( $M = 3.98$ ), which are found to be 1.79 for  $t$ -value and 0.07 for  $p$ -value at 90% confidence level. These results reveal that consumers who viewed the technological preannouncements might form a better attitude toward new products compared with other consumers.

## 6. Hypotheses Testing

### 6.1 Direct Effect Testing

The structural equation model (SEM) is used to verify the hypotheses of the study. The model fit indices  $CMIN/DF = 2.10$ , which is smaller than the reference value between 3 to 5, and  $CFI = 0.95$ ,  $GFI = 0.92$ , which is higher than the reference value 0.9. Also,  $RMR = 0.03$ ,  $RMSEA = 0.06$ , which is lower than the reference value of 0.1[60]. Therefore, the model fit of this study is shown to be significantly good. [Table 7] describes hypotheses testing

**Table 7. Direct Effect Testing Results**

Path	Standardized Weights	S.E.	C.R.	P	Results
H1a. Information Quantity → Attitude	0.42	0.13	3.53	0.00	Accepted
H1b. Information Clarity → Attitude	0.51	0.11	4.20	0.00	Accepted
H2. Attitude → Purchase Intention	0.78	0.09	9.43	0.00	Accepted
Model Fit: CMIN=210.26,DF=100, CMIN/DF=2.10, RMR=0.03, RMSEA=0.06, GFI=0.92, NFI=0.90, CFI=0.95, IFI=0.95.					

results. The influence of preannounced information quantity and preannounced information clarity on consumers' attitudes toward the new product is statistically significant, and then, supporting both hypotheses 1a and 1b. Furthermore, the impact of attitudes toward the new product on purchase intention also appear to be statistically significant, to this end, H2 is also adopted.

### 6.2 Moderation Analysis

**Table 8. Moderation Analysis Results**

Hypotheses	Moderation					
	Information Quantity			Information Clarity		
	Unstandardized Coefficients	T	Sig.	Unstandardized Coefficients	T	Sig.
H3. Product Knowledge	0.12	2.35	0.02	-0.13	-1.71	0.09
H4. Product Innovation	-0.08	-2.21	0.03	0.14	2.43	0.02

This study conducts a hierarchical analysis to confirm the moderating effects of consumers' product knowledge and new product innovation in the research model, as reported in [Table 8]. The consumers' product knowledge is found to moderate the information quantity-product attitude relationship positively ( $\beta = 0.12, p < 0.1$ ), whereas, negatively moderate the information clarity-product attitude relationship ( $\beta = -0.13, p < 0.1$ ), which supporting both H3a and H3b. To restate, the

analysis results suggest that the more affluent the consumers' product knowledge is, the stronger the influence of information quantity on attitudes toward the new product is, conversely, the weaker the influence of the information clarity on the product attitude is. Moreover, the product innovation is found to moderate the information quantity-product attitude relationship negatively ( $\beta = -0.08, p < 0.1$ ), and positively moderate the information clarity-product attitude relationship ( $\beta = 0.14, p < 0.1$ ), which supporting both H4a and H4b. That is, the higher the degree of a new product innovation is, the weaker the influence of information quantity on attitudes toward the new product is, the stronger the influence of information clarity on attitudes toward the new product is.

## IV. General Discussion

### 1. Conclusions

As evident in the methodology section, preannounced information attributes (i.e., quantity, clarity) direct a significantly positive effect on consumers' attitudes, in turn, lead to a favorable purchase intention. Furthermore, in terms of moderating effects, testing results indicate that both consumers' product knowledge and new product innovativeness significantly moderate the relation between preannounced information attributes and consumers' attitudes toward new products. Specifically, the product knowledge exerts a significantly positive effect on information quantity-product attitude relation, whereas, the analogous effect on relation between

information clarity and product attitude is significantly negative. A plausible explanation for this is that the more preannounced information is clear and understandable, the less a target audience with a higher level of product knowledge is curious about the preannounced product[63][64]. That is, drawing from empirical studies on curiosity, both information ambiguity and novelty may result in a higher level of individuals' curiosity as compared to individuals exposed in a clear and accurate information environment[65]. Moreover, results of the study suggest that the product innovation positively influences the information clarity-product attitude relationship, yet influence the information quantity-product attitude relation negatively. There seems to be a consensus that a greater amount of information may lead to a cognitive resource depletion[29]. Individual customers are likely to conform their behaviors to popularity rather than place an emphasis on innovative or unique features of products[29]. [Fig. 2] reports detailed hypotheses testing results.

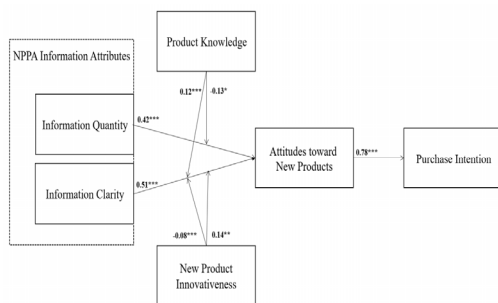


Fig. 2. Hypotheses Testing Results

## 2. Implications

Recognized as a decisive strategy for new product adoption processes, preannouncing

behaviors are undertaken by firms in a wide variety of industries, especially high-technology industries[26]. In other words, the positive effects of preannouncements on both reducing switching costs and extending life cycles of products have been confirmed by numerous researchers[5]. In response, this article also makes several contributions both in theoretical and managerial sectors respectively. First, the present study enriches existing literatures on preannouncing behaviors by providing some empirical evidence that demonstrates the positive association between preannounced information attributes and consumers' behavioral intentions. That is, clear and ample preannounced messages are more likely to result in favorable buying decisions of individual consumers. Second, overall findings of the current research broaden the extension of factors which may influence the success of new product development process from both consumer-related and product-related perspectives respectively. Specifically, the significant impacts of consumers' product knowledge and product innovation on relation between preannounced messages and individuals' decision-making have been confirmed. Third, the study identifies the divergent influence of two moderators exerted on the association between preannounced behaviors and consumers' decision-making. Accordingly, marketing practitioners should regulate the clarity and amount of preannounced information legitimately so as to achieve a favorable marketing effect. For instance, an enormous amount of preannounced information may lead to a consumer's overlooked perception of new product innovativeness. Hence, it is important for

managers to modify the amount of preannounced information. Lastly, these findings of this article can help top managers embrace mentioned variables into new product development processes, segmentation structures, company policies, and so forth.

### 3. Limitations and Future Research

Several limitations of the current research are worth noting. First, the age structure of respondents in the study is comparatively asymmetric, that is, most respondents in this study are college students in their twenties. In so doing, future research can recruit more extensive brackets of respondents so as to increase external validity and improve generalizability of research results. Second, the study design of this article is relatively simple, thus, more research approaches such as longitudinal studies or multifaceted approaches can be adopted to bolster the validation of these research results in future research. Lastly, prior academic work on NPPAs indicates that preannouncing behaviors may also result in risks of unintentional competitive reactions or the credibility of firms[8][20]. In other words, an immense amount of preannounced information may lead to the dubiousness of consumers when the firm breaking the promises made in preannouncements [8]. In addition, too clear preannounced messages may carry more tangible cues of the new product to competitors, in turn, augment the risks of product failure[20]. The current study mainly does focus on the positive influence of preannouncements, nevertheless, other researchers can incorporate the negative aspects of preannouncing behaviors into their future research.

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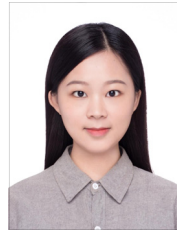


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