

## Information seeking behaviour and purchasing decision: case study in digital cameras

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### Abstract

This case study explores the information seeking behaviour of digital camera consumers based on Assael's consumer information acquisition and processing model. 135 responses were received from potential target group who had purchased or was planning to purchase digital cameras. Findings show that respondents who had not purchased digital camera before tended to seek for related information and generally spent more time on the search. Motivation of information seeking triggered by risk and uncertainty is also supported by resulting data. Significant difference was found in information seeking and time spent on the search based on different education attainment and income level of consumers. These results give hints to promoters to outline strategies for capturing potential customers based on their information seeking behaviour, as well as highlight informational supports that could be provided by relevant information agencies such as consumer councils and public libraries.

**Keywords:** information seeking behaviour, digital camera, case study.

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### 1. Introduction

In contrast with other simple goods of which people make their purchase decision on a regular basis, consumers tends to spend more efforts and resources in information seeking activities for the complex products [3]. However, the amount of information in the Web increased exponentially, hindering the efficiency and effectiveness of consumers in seeking for their relevant information. As such, our study aims at improving efficiency of prospective purchasers in information seeking processes, as well as suggesting information supports that could be provided by relevant information agencies.

The main research question of this case study is: are there significant differences in information seeking behaviour among consumers when comparing with their purchasing experiences, product knowledge, purpose of usage, level of involvement and social class factors?

Digital camera (DC) is chosen as our case for study, as it becomes a more and more popular commodity in recent years. A research conducted in 2006 shows that the percentage of people in Hong Kong owning DC jumped from 25% in 2002 to 66% in 2006 [1]. The penetration rate further grew to over 70% in another survey conducted in 2010 [2]. DC is a relatively complex product when considering the technologies involved and skills required for usage.

In this study, we adopted the definition of information seeking behaviour from T.D. Wilson [4], which is "the purposive seeking for information as a consequence of a need to satisfy some goal" (p.49). Moreover, information seeking behaviour should be referred to observable behaviour instead of internal mental states such as needs [5]. Although there are plenty of models explaining information seeking behaviours such as Wilson model, Johnson model and Krikelas model as quoted by Case [6], we apply Assael's consumer information acquisition and processing model [9] (to be elaborated in the next section) as a framework for analysis with the following reasons:

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i. It might be more appropriate to apply marketing models developed for explaining consumer behaviour in this case study related to information behaviour in purchasing DC.

ii. Assael’s model covers a boarder scope when compared to the other three models, most parameters of which can be found in Assael’s model. According to the principal of comparing conceptual models suggested by Jarvelin and Wilson [7], a boarder scope is preferred to the narrower one if other factors being equal.

The rest of this paper is organized as follows. Section 2 reviews background and related literature. Section 3 explains our research methodology. Section 4 details our results and finding and Section 5 our discussions. Section 6 states our recommendations and limitations our study before we conclude in Section 7 with our research directions.

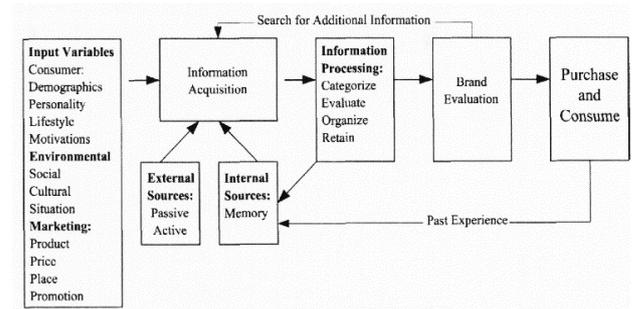
## 2. Background and Literature Review

A purchasing process does not start at the point of actual purchase. Kotler [8] points out that there are five stages processes as shown in Figure 1. He opined that consumer needs can be triggered by internal or external stimulations. A state of tension occurs after needs recognition. This induces consumers to conduct information searching and evaluation before making purchasing decisions. The post-purchase behaviour, including satisfactions, actions, use and disposal of the product or service will become factors influencing the information searching and evaluation, as well as their subsequent purchasing decisions. This is also in line with the reputation model of Chiu, Leung and Lam [45].



**Figure 1.** Kotler’s Five-Stage Model of the Consumer Buying Process [8]

Assael [9] illustrated further parameters affecting consumers’ information searching and evaluation in his consumer information acquisition and processing model as shown in Figure 2. Further, France, Yen, Wang, and Chang [10] summarised the models into the 5 stages as shown in Table 1.



**Figure 2.** Assael’s Consumer Information Acquisition and Processing Model [9]

**Table 1.** Stages of Assael’s Consumer Information Acquisition and Processing Model

Stages	Descriptions
1	Input of background factors of the purchasing decisions
2	Acquire information from external and internal sources
3	Recognise and process information that will be retained for future use
4	Prioritise necessary features or acknowledge brand loyalty
5	Signify the actual purchase and use of the product

### 2.1. Stage 1 – Input Variables

The background factors affecting purchasing decisions can be divided into consumer characteristics, environmental factors and marketing factors:

#### 2.1.1. Consumer Characteristics

Consumer’s demographics characteristics such as age, gender, marital status and psychographics characteristics such as life style and personality can have significant effect on their selection of information sources and other information seeking behaviour.

Motivation of information seeking also plays a key role. Consumers tend to have higher involvement in seeking and evaluating information in complex decision making, especially when the products are:

- High price products
- Associated with performance risks
- Complex products
- Specialty goods
- Associated with one’s ego

#### 2.1.2. Environmental Factors

This includes culture, social class and situational factors. Culture refers to widely shared norms and patterns of

behaviour of a large group of people. Social class is a board grouping based on income, education, occupation and so on. Individuals within a certain social class tend to have similar information seeking behaviour and purchasing pattern. Situational needs and temporal perspective during decision making also be factors influencing the information seeking behaviour.

### 2.1.3. Marketing Factors

As described by Howard [11], the well-known '4P' dimensions of the marketing mix: product, price, place and promotion contribute to input variables in different ways. New features of a product trying to solve the strong unmet needs can stimulate efforts from consumers in understanding and experiencing the product. Change of price can influence consumers demand especially for products with high elasticity in price. Distribution channels and availability can shape the habits and strategies of information seeking of consumers. Last but not least, promotional factors including advertisement and word-of-mouth, which tend to play important role in early and later stage of product cycle respectively, can always exercise influence on consumer behaviour beyond imagination.

## 2.2. Stage 2 – Information Acquisition

### 2.2.1. External Sources

This includes marketing communications, family members, friends, etc. Assael further separate this item into active sought and passively received sources. Examples of active sought sources are consumers seeking for advertisements, consulting family members and friends. While unconsciously received message from media advertisements, casually hearing from strangers or known person and accidentally encountered information served as good examples for passively received sources.

### 2.2.2 Internal Sources

Basically this means our memories which may come from previous results of information processing and past experiences after purchasing and consumption. Perception of product quality among different brands is also included as an internal source, although Assael linked this by a separate arrow in order to emphasise evaluating alternative brands can result in additional needs in searching of information.

## 2.3. Stage 3 – Information Processing

Acquired information will be processed in this stage. Sources, message and media will be evaluated. Ironically, people always expose to information selectively. Acquired information will not hundred percent be processed. Processing capacity is also limited under a

flooding of information. Categorisation and organisation helps to improve the efficiencies for the consumer in processing information acquired. Processed information will not only affect the current decision making, but will also be retained in memory for retrieval in future.

## 2.4. Stage 4 – Brand Evaluation

Brand loyalty represents consistent purchase and a favourable attitude toward certain brand overtime. Usually, the higher the brand loyalty, the lower the motivation in information seeking is.

## 2.5. Stage 5 – Purchase and Consume

Finally, customers make their decisions according to the processing and evaluation steps mentioned above. Their post-purchase evaluations will then become experiences for next purchases, which will affect their beliefs and consumption behaviours in future.

## 3. Methodology

A detailed questionnaire survey was developed, aimed at identifying and analysing consumer information seeking characteristics, behaviour, channels and contents which they commonly used (see Appendix). The target group of this survey was the consumers of DC in Hong Kong. This survey was Web-based and distributed through e-mails, WhatsApp and Facebook. In 2013, we conducted a pilot run with 12 respondents and then distributed this survey after final adjustments by incorporating opinions collected from pilot. The survey responses were collected anonymously. Participants are reminded the deadline for submitting the survey during invitation. A warm reminder was sent on in order to boost the response rate. 135 responses out of 174 invitations (77.6%) are collected finally.

The survey languages were in both English and Chinese, which are the two official languages used in Hong Kong. It requires approximately 5-15 minutes for completing the survey, as respondents were not required to answer all questions. They can sift through questions that are irrelevant to them. The survey contained 27 questions under the following four parts:

- A. DC usage
- B. Background of purchasing DC
- C. Information behaviour of decision making on purchasing DC
- D. General information

Part A was about the usage of DC. The first question was used to segregate two groups of respondents who (i) had purchased or planning to purchase DC and (ii) have never purchased DC. For those respondents who have never

purchased DC, a follow-up question asked them the reasons why they have not purchased DC.

Part B and C were designed for those respondents who had purchased or planning to purchase DC. Since decision on purchase would be associated with past experience and product knowledge, three questions in Part B probed this issue by asking their ownership and expertise on DC. Then, two questions were asked to understand respondents purchase intention and factors that may affect their purchase intention. It was also expected that there is relationship between consumer perceptions and purchasing decision. So, three questions were used to determine these variables. Finally, there is a follow-up question for indicating their satisfactory level toward the selected DC.

Questions in Part C were particularly focused on the information seeking characteristics and behaviour of the target group. The first question in Part C had differentiated the groups of respondents whether they would or would not seek for related information before purchasing. Those who responded with 'No' were asked about reasons for not searching information before purchasing as the researchers were also interested in their reasons. For those respondents who did search before purchasing, seven questions asked to investigate the detailed information about their searching behaviour, like reasons for searching, time spent on searching, channels and contents of searching, importance rating of information sources, influence of their searched information on purchasing decisions and so on. In some questions under Part B and C, although we offer a number of possible answers, these may not be good enough for all for respondents. Thus, extra space (i.e., an option of "Others") was provided for respondents to allow for further explanations or comments.

Finally, there were seven questions collecting demographic data such as gender, age, education attainment, marital status, time spent on the Internet, employment status and income.

The researchers adopted a four-point Likert scale in most questions requesting respondents to perform ranking in order to force them to choose either the agree side or disagree side, except for the questions related to information channels which adopting five-point Likert scale.

As this case study focus on information behaviour instead of conducting marketing survey, marketing-related issues such as brand, price, promotion and product distribution channels are omitted intentionally.

The survey was designed to test the following hypothesis:

Hypothesis 1: People with less experience in purchasing similar product would prefer to seek information before making purchase decisions. (H1)

Hypothesis 2: People with less experience in purchasing similar product would spend more time on information seeking before making purchase decisions. (H2)

Hypothesis 3: People with little know-how in DC would prefer to seek information before making purchase decisions. (H3)

Hypothesis 4: People with little know-how in DC would spend more time on information seeking before making purchase decisions. (H4)

Hypothesis 5: People agree purchasing DC is an important consumption decision would prefer to seek information before making purchase decisions. (H5)

Hypothesis 6: People agree purchasing DC is an important consumption decision would spend more time on information seeking before making purchase decisions. (H6)

Hypothesis 7: People with high level of annoyance in purchasing an unsuitable DC would prefer to seek information before making purchase decisions. (H7)

Hypothesis 8: People with high level of annoyance in purchasing an unsuitable DC would spend more time on information seeking before making purchase decisions. (H8)

Hypothesis 9: People purchasing DC for self-use would prefer to seek information before making purchase decisions. (H9)

Hypothesis 10: People with higher education level would prefer to seek information before making purchase decisions. (H10)

Hypothesis 11: People with higher education level would spend more time on information seeking before making purchase decisions. (H11)

Hypothesis 12: People with higher income level would prefer to seek information before making purchase decisions. (H12)

Hypothesis 13: People with income more than HK\$10,000 would spend more time on information seeking before making purchase decisions. (H13)

## 4. Results and Findings

Figure 3 shows that 83 subjects were women (61.5%) and 52 were men (38.5%). The majority of the respondents

(80.0%) was in the age group between 15 and 34 which aligns with the target consumers of DC. Figure 4 shows that 41.5% of them (56 persons) attained education level of undergraduate or above, while the remaining were post-secondary or below. 68.1% of the respondents (92 persons) were single. In view of their employment status, 58.5% were working population and 41.5% were students, housewives, unemployed or retired persons. Of the working group, nearly half of them (37 persons accounts for 46.8%) had monthly average income below HK\$20,000 while the other half of them over HK\$20,000.

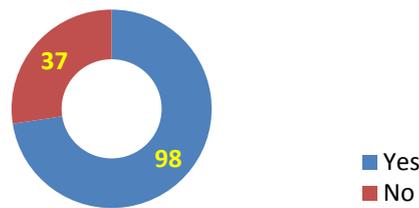


Figure 3. Gender of Respondents

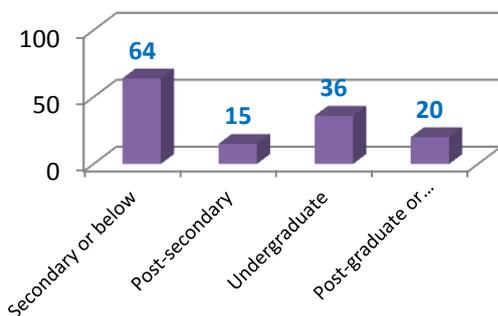


Figure 4. Highest Education Attended

Out of the 135 respondents, 72.6% had purchased DC before or are planning to purchase DC. In which, 91 persons had purchased at least one DC that accounts for 92.9% of the target group (Figure 5 & Figure 6). Only 44.9% of them agreed that they had good know-how in DC. A large proportion of the target respondents (78.6%) agreed that they feel annoying before making the decision of purchasing DC. Besides, 66.3% of the target respondents agreed that this consumption decision is important.

The data collected from the target group regarding to pre-purchase information behaviour were analysed statistically and are presented here according to the stated hypotheses.

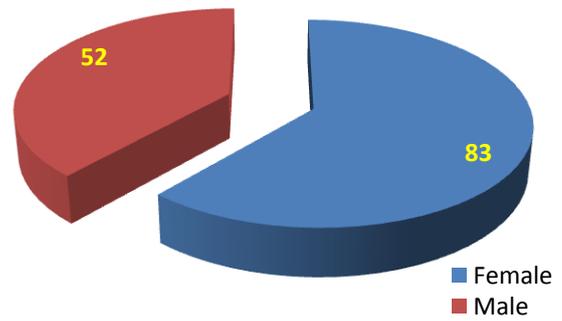


Figure 5. Purchased or Planning to Purchase

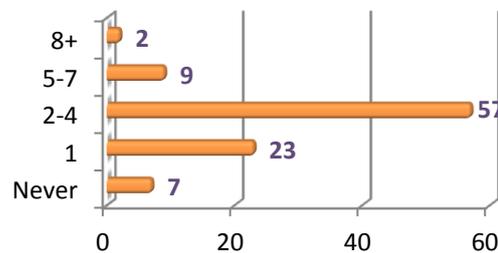


Figure 6. Number of Purchasing Experiences

#### 4.1. Related Experience and Product Knowhow

Existing literatures suggest that previous experience in purchasing similar product will directly affect information seeking behaviour of consumers. Although statistical testing is not available due to small sample size, the summary statistics in Table 2 shows that all respondents without DC purchasing experience would seek for related information before purchasing one, which is in line with H1.

Also, it is more likely for respondents without DC purchasing experience would spend more time on information seeking before making the purchase decision, which is in line with H2. (Table 3)

H3 proposes that respondents with little know-how in DC would prefer to seek information before making purchase decisions. Compared with respondents with more know-how, respondents with little know-how would seek for related information before purchasing DC is 7.6% lower. However, the Chi-square statistics is not significant at the level of 0.05 ( $p=0.06789$ ), which does not support the predicted hypothesis. (cf. Table 4)

Table 2. Result For Hypothesis 1

B1. No. of DCs purchased before	C1. Do you seek for related information before purchasing DC(s)?				Total	P-value
	No	%	Yes	%		
Never bought one before	0	0.0%	7	100.0%	7	-
Bought at least one	13	14.3%	78	85.7%	91	
<b>Total</b>	13	13.3%	85	86.7%	98	

Table 3. Result For Hypothesis 2

B1. No. of DCs purchased before	C3. Time usually spent for seeking information before purchasing DC(s)				Total	P-value
	1-3 days	3 days to 1 week	1 week to 1 month	> 1 month		
Never bought one before	1	2	4	0	7	-
	14.3%	28.6%	57.1%	0.0%		
Bought at least one	26	11	27	12	76	
	34.2%	14.5%	35.5%	15.8%		
<b>Total</b>	27	13	31	12	83	

Table 4. Result For Hypothesis 3

B3. Have know-how in DC(s)	C1. Do you seek for related information before purchasing DC(s)?				Total	P-value
	No	%	Yes	%		
Disagree	9	16.7%	45	83.3%	54	0.06789
Agree	4	9.1%	40	90.9%	44	
<b>Total</b>	13	13.3%	85	86.7%	98	

H4 proposes that respondents with little know-how in DC would spend more time on information seeking before making purchase decisions. The Chi-square statistics is significant at the level of 0.05 ( $p=0.04451$ ), which supports the effect of know-how on time spent for seeking information before purchasing DCs (cf. Table 5). 61.5% of respondents with more know-how in DC spent at least one week on seeking information before purchasing DC, while only 43.2% of respondents with little know-how would spend over one week on the search. This result contradicts with the researchers' prediction in H4.

## 4.2. Involvement and Motivation

H5 states that respondents agree purchasing DC is an important consumption decision would prefer to seek information before making purchase decisions. From the

survey, 86.3% of them would seek for related information before purchasing DC, which is 7.7% higher than those disagreed that purchasing DC is an important consumption decision (cf. Table 6). The Chi-square statistics is significant at the level of 0.05 ( $p=0.00004$ ) which supports the predicted hypothesis.

H6 proposes that respondents agree purchasing DC is an important consumption decision that would spend more time on information seeking before making purchase decisions. The Chi-square statistics is significant at the level of 0.05 ( $p=0.00001$ ) which supports the predicted hypothesis. 63.8% of respondents agreed that purchasing DC is an important consumption decision would spend over one week on the search, which is 39.8% higher than those disagreed that purchasing DC is an important consumption. (cf. Table 7)

Table 8. Result For Hypothesis 7

B6. Level of annoyance in purchasing an unsuitable DC(s)	C1. Do you seek for related information before purchasing DC(s)?				Total	P-value
	No	%	Yes	%		
High	8	10.4%	69	89.6%	77	0.00000
Low	5	23.8%	16	76.2%	21	
Total	13	13.3%	85	86.7%	98	

Table 9. Result For Hypothesis 8

B6. Level of annoyance in purchasing an unsuitable DC(s)	C3. Time usually spent for seeking information before purchasing DC(s)				Total	P-value
	1-3 days	More than 3 days but less than 1 week	More than 1 week but less than 1 month	More than 1 month		
High	20	10	29	9	68	0.00000
	29.4%	14.7%	42.6%	13.2%		
Low	7	3	2	3	15	
	46.7%	20.0%	13.3%	20.0%		
Total	27	13	31	12	83	

Table 10. Result For Hypothesis 9

B4. Purpose(s) of purchasing DC(s)	C1. Do you seek for related information before purchasing DC(s)?				Total	P-value
	No	%	Yes	%		
Personal interest & Hobby	2	3.6%	54	96.4%	56	0.00000
Use for family	11	13.9%	68	86.1%	79	
Use for work	1	11.1%	8	88.9%	9	
As a gift	1	33.3%	2	66.7%	3	
Total	15	10.2%	132	89.8%	147	

H7 states that respondents with high level of annoyance in purchasing an unsuitable DC would prefer to seek information before making purchase decisions. 89.6% of them would seek for related information before purchasing DC, which is 13.4% higher than those respondents with low level of annoyance. The Chi-square statistics is significant at the level of 0.05 ( $p=0.00000$ ) which supports the predicted hypothesis. (cf. Table 8)

H8 proposes that respondents with high level of annoyance in purchasing an unsuitable DC would spend more time on information seeking before making purchase decisions. The Chi-square statistics is significant at the level of 0.05 ( $p=0.00000$ ) which supports the

predicted hypothesis. 55.8% of them, compared to only 33.3% of respondents with low level of annoyance, would spend over one week on information seeking. (cf. Table 9)

H9 states that respondents purchasing DC for self-use would prefer to seek information before making purchase decisions. 96.4% of the respondents purchasing DC for personal interest and hobby would seek for related information before purchasing DC, which is the highest among other purchasing purposes. The Chi-square statistics is significant at the level of 0.05 ( $p=0.00000$ ) which supports the predicted hypothesis. (cf. Table 10)

### 4.3. Education Level and Income

Table 11. Result For Hypothesis 10

D3. Education Attainment	C1. Do you seek for related information before purchasing DC(s)?				Total	P-value
	No	%	Yes	%		
Post-secondary or below	10	18.5%	44	81.5%	54	0.02386
Undergraduate or above	3	6.8%	41	93.2%	44	
<b>Total</b>	13	13.3%	85	86.7%	98	

Table 12. Result For Hypothesis 11

D3. Education Attainment	C3. Time usually spent for seeking information before purchasing DC(s)				Total	P-value
	1-3 days	3 days to 1 week	1 week to 1 month	> 1 month		
Post-secondary or below	16	9	14	4	43	0.02952
	37.2%	20.9%	32.6%	9.3%		
Undergraduate or above	11	4	17	8	40	
	27.5%	10.0%	42.5%	20.0%		
<b>Total</b>	27	13	31	12	83	

Table 13. Result For Hypothesis 12

D7. Income	C1. Do you seek for related information before purchasing DC(s)?				Total	P-value
	No	%	Yes	%		
<\$10,000	7	18.9%	30	81.1%	37	0.00000
>\$10,000	6	9.8%	55	90.2%	61	
<b>Total</b>	13	13.3%	85	86.7%	98	

Table 14. Result For Hypothesis 13

D7. Income	C3. Time usually spent for seeking information before purchasing DC(s)				Total	P-value
	1-3 days	3 days to 1 week	1 week to 1 month	> 1 month		
<\$10,000	17	3	6	3	29	0.00000
	58.6%	10.3%	20.7%	10.3%		
>\$10,000	10	10	25	9	54	
	18.5%	18.5%	46.3%	16.7%		
<b>Total</b>	27	13	31	12	83	

Consistent with previous studies between relationship on education level and information seeking behaviour, H10 proposes that respondents with higher education level would prefer to seek information before making purchase

decisions. 93.2% of the respondents with education level of undergraduate or above would seek for related information before purchasing DC, which is 11.7% higher than those respondents with post-secondary education or

below. The Chi-square statistics is significant at the level of 0.05 ( $p=0.02386$ ) which supports the predicted hypothesis. (cf. Table 11)

H11 proposes that respondents with higher education level would spend more time on information seeking before making purchase decisions. 62.5% of respondents with education level of undergraduate or above spent more than one week on information seeking before purchasing DC, while only 41.9% of respondents with post-secondary or below would spend over one week on the search. The Chi-square statistics is significant at the level of 0.05 ( $p=0.02952$ ) which supports the predicted hypothesis. (cf. Table 12)

H12 states that respondents with higher income level would prefer to seek information before making purchase decisions. 90.2% of the respondents with income more than HK\$10,000 would seek for related information before purchasing DC, which is 9.1% higher than those respondents with income less than HK\$10,000. The Chi-square statistics is significant at the level of 0.05 ( $p=0.00000$ ) which supports the predicted hypothesis. (cf. Table 13)

H13 proposes that respondents with income more than HK\$10,000 would spend more time on seeking information before making purchase decisions. 63% of respondents with income more than HK\$10,000 spent at least one week on seeking information before purchasing DC, while only 31% of respondents with income less than HK\$10,000 would spend over one week on the search. The Chi-square statistics is significant at the level of 0.05 ( $p=0.00000$ ) which supports the predicted hypothesis. (cf. Table 14)

## 5. Discussions

Information can change one's perception and influence one's judgement and behaviour [12]. People search information for a complete, a clearer and a verified picture of the reality [13]. However, people react to information differently. The information behaviour on several areas according to this survey results will be examined.

### 5.1. Related Experience and Product Knowhow

Experience and product knowledge can be classified as internal source of information indicated in Assael's consumer information acquisition and processing model. According to Laaksonen [14], previous experience in purchasing similar product will directly affect information seeking behaviour of consumers. Experience will result in learning and forming habit, which reduce the amount of arousal evoked by their first purchase. This observation is

in line with the concept suggested by Assael. Consumers with little experience are more likely to look for reliable sources in order to supplement their limited information. In contrast, experienced consumers are more confident in assessing the information itself, independent of the source [15].

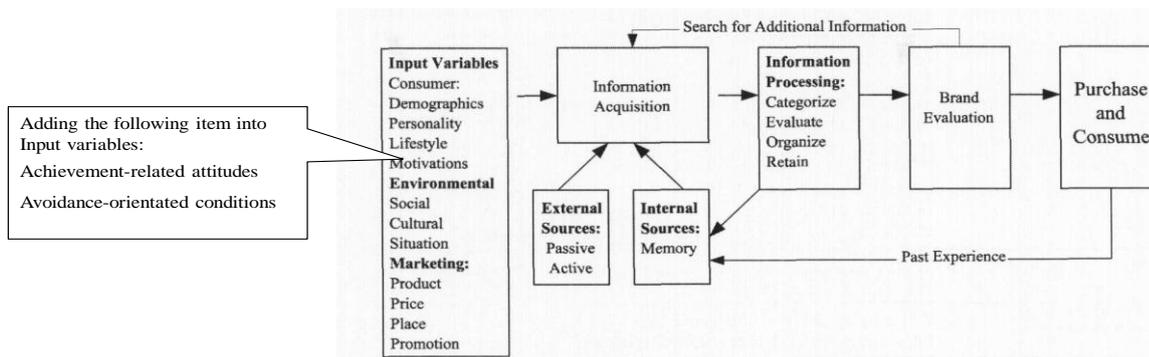
Our survey results also support these studies in the experience aspect. All respondents without previous experiences in purchasing DC would seek for related information before purchase. Moreover, they tend to spend longer time in seeking information when comparing to experienced DC purchasers.

Ironically, there is a completely different story in product knowledge aspect. We observed that the lower the declared know-how in DC of the respondents, the lesser of them willing to spend longer time in information seeking. When reviewing the reasons for not seeking information before purchasing DC, around two-third of them selected the option of "without knowledge to read the related information". The second most selected reason is "further information will not affect the choice" which accounted for nearly one-fourth of selection. Hjørland [16] points out that people always seek information on the basis of their subjective knowledge. All information will be regarded as irrelevant if the information seeker cannot understand the contents [17].

On the other hand, people with higher self-efficacy level will tend to conduct more information seeking activities [18] [19]. As a result, it may be possible that people with lesser product knowledge actually would like to search information. However, their information seeking desire was disrupted, interrupted and terminated prematurely due to negative learned affective norms [20]. When these processes repeated, they become unwilling to conduct information searching as they do not believe those information will effect a change on them [21]. Borrowing a well-known terminology from psychology, they become "learned helplessness" [22].

### 5.2. Involvement and Motivation

Consumer involvement, as defined by Hynes and Lo [23], is the "perceived personal importance or interest attached to the acquisition, consumption, and disposition of a good, service, or idea". DC is a type of relatively high-price and complex products associated with performance risk which leads to high involvement decision making, whereas reducing risk and uncertainty is a widely accepted motivations for seeking information [24]. Assael [25], Murray [26] and Aaker et al. [27] suggest that the higher the perceived risk or uncertainty associated with a product, the greater the consumers' propensity to seek information about the product.



**Figure 7.** Modified Assael's Consumer Information Acquisition and Processing Model

From this survey, there are two-third of the respondents agree that purchasing DC is an important consumption decision. Over 78% of respondents opine that it will be an annoyance matter if an unsuitable DC is selected, which can be viewed as an indicator for level of perceived risks involved. When pairing up with their responds selected in question C1 and C3, which are related to motivation and time efforts spent in searching information respectively, it is statistically significant that one will tends to perform information seeking and tends to spend more time in searching activities if he or she agreed that purchasing DC is an important consumption decision and this decision involves a high perceived risk.

Besides perceived risk, Assael and other scholars like Laurent and Kapferer point out that ego-involved product with symbolic meaning can also stimulate motivation for information seeking [28]. However, there is no apparent relationship found between them in this case study.

Achievement-related attitudes and avoidance-orientated conditions can also exercise influences in motivation. By crossing the purchasing purpose asked in question B4 with willingness of performing information search in question C1, it is noticed that when comparing to purchase DC as a gift, respondents bought their DC for personal interest, family or business use are far more likely to perform information-searching before making any consumption decision. Such behaviour could be explained by their motivational state of involvement suggested by Rabideau [29]. Respondents may be motivated to search for information in need by: (i) the satisfaction of achieving, such as desire of a father to look for suitable DC in order to take best picture of his family; and (ii) the avoidance of failing, such as a multimedia coordinator purchasing a suitable DC on behalf of school for the coming event, in which he would not like to fail it.

Case [30] points out that individual-defined situation shape one's needs as much as the "real" situation itself. Such personal desire can play an important role in the motivation of information seeking.

When it comes to avoidance-orientated conditions, as discussed in section 6.1, a rather large proportion of respondents answered that they do not perform information searching as they have limited knowledge in DC. The term of 'information anxiety' may give a reason for this behaviour. According to Bawden and Robinson [31], when one is under a condition of stress caused by a lack of understanding of the necessary information, one may feel lost and thus avoid searching for information.

In other words, the more one is achievement-involved or the less one suffering from avoidance-orientated conditions, the more one will be motivated to seek for needed information. Though Assael does give a general idea that motivation can be considered as a major element in his information acquisition and processing model, it may be better to emphasise the underlying factors behind in details, including one's attitudes towards achievement and emotional factors. A modified Assael's consumer information acquisition and processing model is suggested in Figure 7.

### 5.3. Education and Income Level

The first stage of Assael's model illustrated the background factors that the consumer brings to information acquisition. We picked education and income level which are closely related to social status for examining the relation between these two variables and information behaviour based on the survey results.

Individuals with higher education attainment are more able to organise and integrate new information [32]. Previous studies on consumer information search found that there is a positive relation between education and information search [33]. This survey also found such direct relationship between educational level and the tendency of information search. Those respondents with a postgraduate or above in education level returned an absolute result that all of them had sought for related information before purchasing DC. By contrast, the

Table 15. Recommendations to various parties

<b>Parties</b>	<b>Recommendation</b>
<b>Prospective Consumers</b>	<ul style="list-style-type: none"> <li>• Conduct information seeking before purchasing decision is made</li> <li>• Avoid relying on single source of information.</li> <li>• Seek assistances from unbiased information agencies such as consumer councils and public libraries.</li> </ul>
<b>DC Manufacturers and Promoters</b>	<ul style="list-style-type: none"> <li>• Provide more product information on top of symbolic messages in advertisement.</li> <li>• Produce videos of online tutorials and deliver these videos to consumers via its website and other intermediates like YouTube.</li> <li>• Supply well-trained salespersons for satisfying a variety of needs from various customers.</li> </ul>
<b>Consumer Council</b>	<ul style="list-style-type: none"> <li>• Promote public educations related to DC by advertisements, subsidizing public tutorials and forums in order to enhance product knowledge for general public</li> <li>• Deliver and enhance accessibility for unbiased product testing reports and comments related to DC for the publics</li> </ul>
<b>Public Library</b>	<ul style="list-style-type: none"> <li>• Conduct programmes for improving information literacy for the general public</li> <li>• Encourage prospective consumers to access the existing resources available in public libraries, including books, magazines and subscribed databases</li> </ul>

tendency on information search is declining according to their education level.

In addition to education level, this survey result also suggests a strong positive relationship between income level and tendency of information searching as well as time effort spent on searching. This finding matched with the theory of social capital introduced by Lin [34]. Lin defined social capital as “resources embedded in a social structure which are accessed and/or mobilised in purposive actions” [35]. It is closely related to education and income [36]. Johnson [37] points out that with better social capital, people can enjoy better-quality resources. This leads to increase in opportunity for them to interact with other parties with different and better resources, as well as the tendency for finding the information they need in order to enlarge their social capital.

However, people will not conduct information searching perpetually even they have such social capital. “Consumers do not engage in extensive information search unless they consider the benefits gained from additional information to be worth the time and cost of such a search” [38]. In other words, they will only search until the perceived marginal costs of search equal the perceived marginal benefits [39]. Over half of the respondents replied that they will stop searching after the purchasing decision was made. This echo the concept advocated by Simon who argues that people tend to make good-enough decision to meet their needs instead of considering all possible options in decision making [40].

As suggested by Song and Chintagunta [41], consumers are risk averse in general. Their degree of perceived uncertainty can be reduced when more information becomes available. We would like to propose the recommendations to the parties as summarized in Table 15 in order to enhance consumers’ efficiency in information seeking processes. We believe that by improving the information literacy, negative factors affecting information behaviour related to purchasing experience, product knowledge, motivation, education and income level can be eliminated.

There are several limitations in this case study. First, the data collection process is mainly delivered on the Web and thus some potential target persons may be excluded due to unfamiliar of Internet usage. More different channels for the survey conduction are recommended for future studies. Second, it is a cross-sectional study that collects data at one point of time and such a restriction is mainly due to the time limit of this project. A longitudinal study is recommended for further study on information seeking behaviour due to the rapid advancement of technologies. Third, respondents may find difficulties in recalling past purchasing experiences. In-depth interviews would be a good research tool for future research to explore more specific characteristics on information seeking behaviour of consumers and to reduce the possibility of omitting important information by participants. Fourth, the researchers applied Assael’s consumer information acquisition and processing model as a framework for this case study. As suggested by Assael [42], consumer models have its own limitations which include:

## 6. Implications and Limitations

- (i) Consumer behaviour models identify only the most common elements in decision making.
- (ii) Components in models may not be equally important for all product categories.
- (iii) Components in models may not be equally important for all situations of usage.
- (iv) Model will vary among individuals in the same market.
- (v) Purchase decisions are not equally complex.

In summary, the researchers attempted to conduct an exploratory study to examine consumers' information seeking behaviour before purchasing DC. This case study highlights the need to explore more information seeking behaviour during decision making process of consumer associated with the purchase of other products or services. Future researches to address some of the unfound characteristics related to information seeking behaviour during the decision making process for other types of products are expected.

## 7. Conclusions

Nowadays, with widely spread portable devices with ability to connect to the Internet, information seeking can be performed at ease. However, this does not mean that there are more and more people conducting serious information seeking before making decisions. People still tend to overestimate the value they already know and underestimate the value of what they do not know [43]. We should promote the value of information seeking in order to bring positive effects to the information behaviour, not only for purchasing DC but also other circumstances. In the long run, value of Information literacy, one of the most important skills in the 21st century suggested by Chu et al. [44] should be enhanced and emphasised to this information society.

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## Appendix. Survey Questions

### SURVEY ON INFORMATION BEHAVIOUR IN PURCHASING DIGITAL CAMERA(S)

We are students from the University of Hong Kong. We are now conducting a survey in regard to information behaviour of Hong Kong citizens in purchasing digital camera. We sincerely invite you to take around 15 minutes for taking part in this survey. All collected information relating to individuals will be kept in strict confidence. Only aggregate information, which does not reveal the details of individual, will be reported to the university.

#### A. Digital Camera Usage

A1. Have you purchased or planning to purchase Digital Camera(s) (DCs)?

- |   |                       |
|---|-----------------------|
| 1 | Yes (Please go to B1) |
| 2 | No                    |

A2. Reason(s) for not purchasing DC (may select more than one)

- |   |  |
|---|--|
| 1 | Lack of information for purchasing DCs                                   |
| 2 | Costly in purchasing a DC and its accessories                            |
| 3 | Reliable maintenance is not available / is costly                        |
| 4 | Lack of practical uses for DCs   |
| 5 | Lack of know-how for using DCs   |
| 6 | Be concerned about / worry about making wrong decision in purchasing DCs |
| 7 | Others (please specify):   |

(Please go to D1)

#### B. Background of Purchasing Digital Camera

B1. How many DCs have you purchased before?

- |   |                         |
|---|-------------------------|
| 1 | Never bought one before |
| 2 | 1                       |
| 3 | 2-4                     |
| 4 | 5-7                     |
| 5 | 8-10                    |
| 6 | >10                     |

B2. What type(s) of DCs did you purchase or planning to purchase? (may select more than one)

- 1 Digital SLR Cameras
- 2 Prosumer
- 3 Compact Digital Cameras
- 4 Others (please specify):

B3. Do you have good know-how in DC(s)?

<u>Level of agreement</u>				
Strongly Disagree	Disagree	Agree	Strongly Agree	
1	2	3	4	

B4. What is/are the main purpose(s) of purchasing DC(s)? (may select more than one)

- 1 Personal interest / Hobby
- 2 Use for family
- 3 Use for work
- 4 As a gift
- 5 Others (please specify):

B5. Is/Are there any external factor(s) triggered your need of purchasing DC(s)? (may select more than one)

- 1 Totally not affected by external factors
- 2 Advertisements via media (e.g. television, magazines, online source, etc.)
- 3 After visiting photos galleries
- 4 Affected by friends / colleagues or photos taken by them
- 5 Affected by family members / relatives or photos taken by them
- 6 Others (please specify):

B6. Will you feel annoyance in purchasing an unsuitable DC(s)?

Strongly Disagree	Disagree	Agree	Strongly Agree	
1	2	3	4	

B7. Do you agree that owning a satisfied DC(s) will give the others a fashionable image?

Strongly Disagree	Disagree	Agree	Strongly Agree	
1	2	3	4	

B8. What is the importance of the consumption decision in purchasing DC(s)?

Strongly Disagree	Disagree	Agree	Strongly Agree	
1	2	3	4	

B9. What is your satisfactory level toward your selected DCs?

Very Low	Low	High	Very High	Not applicable
1	2	3	4	5

### C. Information Behaviour of Decision Making on Purchasing Digital Camera(s)

C1. Do you seek for related information before purchasing DC(s)?

- 1 Yes

- 2 No (Please go to C9)

C2. What is the reason(s) for seeking related information before purchasing DC(s)? (Level of Importance 1..4)

- 1 Lack of knowledge about DCs
- 2 Catch trends and updates about DCs
- 3 Avoid selecting a DC which is not suitable
- 4 Others (please specify):

C3. How much time do you usually spend for seeking information before purchasing DC(s)? (Level of Importance 1..4)

- 1 Buy immediately without seeking information
- 2 1 day
- 3 2-3 days
- 4 More than 3 days but less than 1 week
- 5 More than 1 week but less than 1 month
- 6 More than 1 month but less than 3 months
- 7 3 months or more

C4. What kind of information do you seek before purchasing DC(s)? (Level of Importance 1..4)

- 1 Type of DC
- 2 Brand
- 3 Price
- 4 Appearance of the DC
- 5 Features (i.e. new processor, expanded accessories, advanced technology, etc.)
- 6 Specifications (e.g. pixels, focal length, focus range, etc.)
- 7 Free accessories from producer (i.e. battery pack, charger, wrist strap, etc)
- 8 Others (please specify):

C5. What channel(s) do you usually use for seeking information before purchasing DC(s)? (Level of Importance 1..4)

- 1 On-line sourcing of general information (e.g. Google, Yahoo!, etc.)
- 2 Browsing professional DC websites / related discussion board
- 3 Browsing producer's official website(s)
- 4 Visiting the DC shop(s) and make enquires
- 5 Enquiring friends or colleagues
- 6 Enquiring family or relatives
- 7 Reading newspapers or magazines
- 8 Going to exhibition / expositions
- 9 Comments / Words of Months
- 10 Others (please specify):

C6. What kind of information will you consider before purchasing DC(s)?

- 1 On-line sources (e.g. Google, Yahoo!, etc.)

- 2 Professional DC websites / related discussion board
- 3 Producer's official website(s)
- 4 DC shop(s) seller(s)
- 5 Friends or colleagues
- 6 Family or relatives
- 7 Newspapers or magazines
- 8 Exhibition / Expositions
- 9 Comments or words of mouths
- 10 Others (please specify):

C7. Will the information acquired affect you in selecting DCs?

Strongly Disagree – Disagree – Agree – Strongly Agree  
 \_\_\_\_\_  
 1      2      3      4

C8. When will you stop seeking information for before purchasing DC(s)?

- 1 When the decision is made
- 2 When the information I required is found
- 3 When the resources (e.g. time, money, etc.) spent is over my expectation
- 4 No further information can be sourced and replication of information is found
- 5 I will never cease to seek information about this topic
- 6 Others (please specify):  
(Please go to D1)

C9. What is the reason(s) for **NOT** seeking related information before purchasing DC(s)? (may select more than one)

- 1 Without knowledge to read the related information
- 2 Don't know how to search related information
- 3 Adequate knowledge about DCs
- 4 Further information will not affect the choice
- 5 Others (please specify):

## D. General Information

D1. Gender

- 1 Female
- 2 Male

D2. Age

- 1 <15
- 2 15-24
- 3 25-34
- 4 35-44
- 5 45-54
- 6 55-64
- 7 >65

D3. Education Attainment (Highest Level Attended)

- 1 Secondary or below

- 2 Post-secondary
- 3 Undergraduate
- 4 Post-graduate or above

D4. Marital Status

- 1 Single
- 2 Married without child
- 3 Married with child(ren)

D5. How many hour(s) on average do you usually spend on Internet every day (except the use in workplace)?

- 1 Never use Internet before
- 2 Never use Internet after work
- 3 <1 hours
- 4 1-2 hours
- 5 3-4 hours
- 6 5 hours or above

D6. Employment Status

- 1 Full-time student
- 2 Employed
- 3 Self-employed
- 4 Housewife / Retired
- 5 Not being employed and seeking for jobs

D7. Monthly Average Income (in the past 12 months)

- 1 <\$10,000
- 2 \$10,000-\$19,999
- 3 \$20,000-\$29,999
- 4 \$30,000-\$39,999
- 5 \$40,000-\$49,999
- 6 >\$50,000