

## Consumer Awareness Index (CAI): An Innovative Tool for Measuring Consumer Awareness

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### EDITORIAL BOARD EXCERPT

Initially at the Time of Submission (ToS) submitted paper had a 36% plagiarism and after rectification it was reduced to 14%, which is an accepted percentage for publication. The editorial board is of an observation that paper had a successive close watch by the blind reviewer's which at a later stages had been rectified and amended by the authors (Rojalin, Shreyans & Arbuda) in various phases as and when required to do so. The reviewer's had in a preliminary stages remark with minor revisions which at a short span were restructured by the authors. The comments related to this manuscript are tremendously noticeable related to **Consumer Awareness Index** both subject-wise and research wise by the reviewers during evaluation and further at blind review process too. The authors have crafted the paper in a structured manner. The paper explores the factors governing the level of consumer awareness and to introduce the Consumer Awareness Index (CAI). Overall the paper promises to open newer facets of studies. All the comments had been shared at a variety of dates by the authors' in due course of time and same had been integrated by the authors in calculation. By and large all the editorial and reviewer's comments had been incorporated in paper at the end and further the manuscript had been earmarked and decided under "**Empirical Research Paper**". The results of the study are interesting and striking as CAI will work as an innovator tool to decide and judge the consumers level of awareness

**ABSTRACT Purpose:** The purpose of this paper is to introduce the Consumer Awareness Index (CAI), an Innovative tool for measuring the level of consumer awareness.

**Design/Methodology/Approach:** Factors of consumer awareness are found out using exploratory research and grounded theory and then Consumer awareness index (CAI) is developed.

**Findings:** Consumer driven weights have been obtained and a mathematical model has been proposed to evaluate the consumer awareness in a given region.

**Proposed Implications:** CAI will be an important tool from managerial point of view as well as for policy planners as they can design consumer awareness campaign with the help of CAI.

**Originality/Value:** A lot of work has been done on consumer's behavior, grievances, and satisfaction and dissatisfaction responses but there is not such framework to measure consumer awareness Index.

**KEYWORDS** Consumer Awareness | Consumer Knowledge | Grounded Theory | Awareness Index

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## Introduction

Consumer awareness plays a very significant role in educating the society and to reduce unethical practices followed by the marketers and so there is a necessity for consumer awareness to help in the welfare of the society. Consumer awareness from marketing perspective can be defined as “*an awareness of marketing P's, which consist of products or services and its characteristics, place to buy, price, and promotion*”. Or, alternatively it is defined as “*making the consumer conscious of their fundamental rights and duties*”. Consumer awareness is to fathom the perceptions of three kinds of information, they are (i) existing consumer protection statutes, regulations, and standards; (ii) possible channels of recourse; and (iii) relevant product and service characteristics (Dickinson & Shaver, 1982).

A consumer is a key figure in the market and all actions are carried around this individual. Consumer is considered to be the king of the market. The consumer always find themselves to be at the center of all marketing activities (Walters, 1979), but never in the focus when it concerns their protection. Consumers are characteristically discontented with the current market trends with the supply of merchandises and services (Holton, 1967; Kotler, 1972). Andreason and Best (1977) in their study found dissatisfaction with the customers, where they were dissatisfied with at least one purchases in a maximum of five purchases made by them. Similarly dissatisfaction was found out with about one out of ten purchases made by consumer (Westbrook, Newman, & Taylor, 1978). Moreover unaware dissatisfied consumer does not take any action due to lack of information or carelessness. It was shown that ninety one percent of all dissatisfied consumers do not return to the retailers (Peters, 1988). Customer's involvement must be considered by seller's who need to raise their benefit by boosting customers buying trends and activities (Choubtarash, Mahdieh, & Marnani, 2013).

Therefore the consumer has to be protected from high prices, unsafe product, misleading advertisements, and poor quality of goods and services. Protection and promotion of consumer's awareness, rights and interests are the primary responsibility of the Government of any economy.

Productive buying requires a sophisticated knowledge of content of goods, their resources and their use. The need for authorization of the consumers as a class cannot be overemphasized, which is already well acknowledged all throughout the globe. Liberalization and globalization of the economy and the push towards privatization of the market has intensified awareness in the consumer which is further amplified by the availability of information and media exposure. Despite the best efforts made during the course of using a product, the consumer could face many problems with it. Liberalization helped market-drive economy to maximize the profits for manufacturers (Çelik & Basdas, 2010). As a result, manufacturers disregard the impact of goods and services on health of people and environment. Also they seemed to be unconcerned about the quality of goods and services that they supply. Instead of the consumer directing the producer about what should be produced, it is the producer who guides it with the use of advertising techniques. Consumers are often burdened with the problem of choosing between too many products with too less information (Westbrook, 1977). Lack of information search occurs due to difficulty in obtaining information or the consumer may not care (Newman, 1977). As markets become more and more monopolists it becomes essential to educate the consumer about their rights so as to maintain the required standards regarding the purchase of goods or services for which they have already paid.

A study has shown that consumer's need is of knowledge (Bitner, Booms, & Tetreault, 1990). Consumer education not only enhances skills or aid homemakers in better management of resources, but also keeps them alert from being cheated by



shopkeepers, vendors etc. (Bonner, 1992). Educating the consumer on how to evaluate their requirements and resources will help them to rectify this concern and will make them take an informed purchase in this market. Various campaigns are launched by the government to make consumer more aware about their right and duties. Regrettably even after several steps taken by the government, (i.e. the several laws and regulations), to protect the customers rights and seek redressal of their grievances, the government is still not able to utilize the customers knowledge. This is due to their unfortunate conditions or is simply because they are insensitive towards the issue (Gupta & Ogale, 1988). Coupling with lack of awareness, it is the case that often relevant laws which are framed in highly technical language that makes easy comprehension a difficult task (Shiv & Huber, 2000).

Consumer education program is to be successful measurement of its impact and feedback of consumers is required to assess its success or failure (Brown & Dimsdale, 1973). In rural areas, monopolistic market and dissatisfied consumer has no choice but to voice hence consumer awareness is actually the need of the hour (Singh, 1991). With increasingly large number of new products coming into the market there is crucial need for community education. Consumer awareness program should be framed in a way to break the barriers of consumer ignorance. As a result of the present situation, consumer protection which is as old as consumer exploitation, demands greater attention and has assumed greater relevance and importance.

This study focuses on developing a tool through which consumer awareness will be measured in a region as well as the impact of various campaigns. The principal objective of this research is to *identify the factors of consumer awareness* and develop a consumer awareness index (CAI).

## Literature Review

Information search, price consciousness, bargains

hunting, product knowledge, complaint handling and general consumer knowledge was considered as criteria for assessing the level of consumer awareness which was tested in South Africa (Rousseau, 1991). The above model has been followed and pilot testing of the model was done in Zimbabwe and also concluded that different awareness in consumers was due to different attributes of the consumer such as education, age, gender, income, and area (Rousseau & Venter, 1995).

Consumer awareness has positive impact on responsible consumer behavior. Advertisement has strong effect on consumer awareness and has tested in the Spanish auto mobile market (Barroso & Llobet, 2012). One of the study examines the relationship between consumer awareness and consumer behavior and have found out that awareness has positive impact on consumer behavior and lack of awareness make the consumer exploit by sellers about their rights (Ishak & Zabil, 2012). Consumer knowledge and education has major role in consumer awareness. Media has great impact on consumer awareness (Ates & Lusk, 2016). Advertisement make consumer more informed about the varieties and raises the awareness (Honka, et al. 2016).

A model has been developed to measure adult's awareness about consumer protection rights and laws (Dickinson & Shaver, 1982). The process included development of mini case studies followed by content validation, construct validation and finally initial reliability testing. Consumer's awareness and understanding of various functions of consumer protection agencies has been studied and concluded that consumers pursued manufacturer and retailer primarily for redressal of their unsatisfactory purchases (Haefner & Leckenby, 1975). A survey has been conducted to check the level of awareness about energy labels of the appliance by the purchaser between the consumers who are aware and those who are not aware and found out that there is considerable difference between them in terms of their demographic and their purchase behavior

(Dyer & Maronick, 1988). (Rousseau & Venter, 2000) followed the model given by (Rousseau, 1991) and did the pilot testing of the model in Eastern Cape. Results suggested low level of consumer awareness among the population demanding an urgent need of campaigns to promote consumer education and hence the level of consumer awareness. When the consumer is conscious of his rights, then a consumer driven marketing strategy leads to an alliance between corporate values and the corporate itself (Amba-Rao, 1993). An index of consumer well-being should be developed with consumer advocacy being one of the four components of the index (Mayer, 2008).

Education has significant role on consumer awareness (Bitner, Booms, & Tetreault, 1990). Consumer awareness is strongly influenced by their demographic characteristics (Warland, Herrmann, & Willits, 1975). A study shows that consumers with higher income, higher education and those subscribing magazine are more aware consumers whereas lower income, lower education and elderly are disadvantaged consumers (Halstead, Jones, & Cox, 2007; Broadbridge & Marshall, 1995; Aaker & Day, 1982; Thorelli, 1971). Research further supports the assumption that a more informative consumer is more aware and their knowledge grows with their interest (Bourgeois and Barnes, 1979).

Less work has been done on consumer awareness in past decade, in fact there is hardly any work done to evaluate the level of consumer awareness, though much work has been done on consumer behavior, consumer grievances and consumer satisfaction and dissatisfaction responses. In fact, the consumer awareness research work has not mentioned in any such frame of reference to measure consumer awareness. Hence our research focuses to address this gap by developing a Consumer Awareness Index (CAI) and to identify the factors of consumer awareness as perceived by the consumers. This study is of academic and practical significance which will aid policy planners and industries to identify and respond to different level of consumer awareness

all across the globe to identify the impact of various consumer awareness campaigns and growth in awareness of consumers.

## Methodology

The purpose of study is to explore the factors that govern the level of consumer awareness and develop a consumer awareness index for measuring the consumer awareness. Grounded theory method has been used to explore the factors. Interviews of 18 consumer experts employed in various institutions across India were conducted.

## Grounded Theory Method

The grounded theory framework was used in analyzing the contents of the interview where it begins with the area of interest of the study, which allows constructs and the inter-linkages that emerge from the area of study rather than beginning with them and then seek their proof (Corbin & Strauss, 1990).

Grounded theory strength lies in carving the factors from the data collected from the respondents (Glaser & Strauss, 1967; Strauss & Corbin, 1998). It analyses the data with no presumed hypothesis and explores the possibilities in the actual world (Glaser & Strauss, 1967). Thus, grounded theory appeared to be an appropriate choice since the objective is to explore the criteria used to measure consumer awareness.

- **Application of Grounded Theory Approach**

Instead of requesting the experts to select from a group of options we have used the grounded theory methodology to determine the factors (Glaser & Strauss, 1967; Strauss & Corbin, 1998). Grounded theory methodology does not require to use the literature review as (Glaser & Strauss, 1967) pointed out "*the author must have a perspective that will help him see relevant data and abstract significant categories from his scrutiny of data*".



Generally, there are two approaches towards grounded theory methodology. First, Glaser’s approach (1967) researcher has to entirely depend upon the understanding of the participant to trust in the identification and specification of the research issue. Second, Strauss and Corbin’s (1998) approach that requires the researcher to select in advance the focused area and then draft interviews around the area and thus data pertaining to that area would be collected. In our work, we have considered the Strauss and Corbin’s (1998) approach as we have a specific research outline and we have followed the steps as mentioned below:

**Step 1:** As the “raw data” meaning actual activities or incidents as reported or observed can’t be used to theory (Corbin & Strauss, 1990). Thus, coding at different levels in a data is needed in identifying theory from data. “Coding represents the operation by which data are broken down, conceptualized and put back together in new ways” (Strauss & Corbin, 1998). The principal step is that of open coding wherein the transcriptions are organized as “thought units” which at times can contain phrases or can contain several sentences. For open coding the interviews conducted on the consumer experts were broken

into thought units ranging from a phrase to 3–4 sentences. The Codes that were identified for our work are mentioned below:

<i>A</i>	<i>Awareness Factor</i>
<i>1, 2, 3, 4</i>	<i>Respondent Number</i>
<i>N</i>	<i>Not a criterion for consumer awareness</i>
<i>Y</i>	<i>Perceived as a criteria for consumer awareness</i>
<i>i, ii, iii, iv...</i>	<i>Number of reasons given by that respondent</i>

Here, A3Yi means that respondent three ‘3’ comprehends criteria among consumers ‘A’ (possibly caused by any factor/reason) that affects its level of awareness ‘Y’ and the first reason ‘i’ that they give it.

**Step 2:** The second element in grounded theory, categories, as defined by (Corbin and Strauss, 1990) is higher in level and is more abstract than the concepts they are representing. This is done by axial coding where the thought units are regrouped to emerge as categories (Baskerville & Pries-Heje, 1999) which in our study represent as factors of consumer awareness.

Table 1: Research Process

Research Method	Process Flow
Grounded Theory	<ul style="list-style-type: none"> <li>To Identify the factor Contributing toward Consumer Awareness</li> <li>Open Coding</li> <li>Categories Identification</li> </ul>
Factors and Classification	<ul style="list-style-type: none"> <li>Pre Purchase</li> <li>Purchase</li> <li>Post Purchase</li> </ul>
Questionnaire Development	<ul style="list-style-type: none"> <li>Initially 60 items along with 10 consumer experts for content validity</li> <li>Five Point Likert Scale (From “Completely Agree” to “Completely Disagree”)</li> <li>Three Point Lawshe Scale</li> <li>41 Qualified in Questionnaire</li> <li>Stratified Random Sample [n = 350] considered from New Delhi and Meerut District, UP, India</li> </ul>
Factor Analysis	<ul style="list-style-type: none"> <li>Varimax Rotation to get maximum inter correlation between the factors</li> <li>Factors with loading greater than 0.5 and eigenvalue greater than 1 chosen for Consumer Awareness Index</li> <li>Cronbach Alpha Check</li> </ul>
CAI Construct	<ul style="list-style-type: none"> <li>Questionnaire Responses gave average score which were used to calculate relative weights</li> </ul>

- **Findings of Grounded Theory and Interpretation:**

From the above outlined process, firstly the open codes are identified. Then, these open coding (statements) are grouped into various categories. These categories are the factors responsible for describing consumer awareness. Fourteen factors were recognized and they were denoted as F1 to F14, details of which are mentioned below:

### Consumer's Knowledge (F1)

The primary set of responses was regarding the consumer's knowledge. This is one of the most basic factors which have been recorded in many responses concerned about the level of knowledge in consumers. Typical responses to be selected for this category are as mentioned below: (Note: Arguments/ thought coding are the values mentioned within parenthesis).

- Consumers buying any good or services are completely aware of the product quality, (AnYi);
- In recent times no consumer has the awareness to check for expiry dates or to receive cash memo after purchases, (AnYii);
- Most knowledgeable consumers are protected consumers, (AnYiii);
- You don't have any right to complaint in case you don't have any prior knowledge, (AnYiv);
- Knowledge is the key to awareness and means to fight exploitation, (AnYv);

### Product Evaluation and Inspection (F2)

The responses were regarding the product evaluation and inspection. Special focus was given on words like product information, inspection etc. This category can be considered as a subset of previous category. Typical responses were:

- Half of the complaints of defective electronic

products can be resolved if the buyer ask for proper demonstration, (AnYix);

- Every mechanism of redressal is meaningless if proper inspection of product is not done while purchasing it, (AnYx);
- A smart consumer should always try to take out all information regarding the purchase of a product or availing any service from the seller, (AnYxi);

### Right Awareness (F3)

The responses were regarding the right awareness. Consumer right awareness implies making consumers aware of their rights and duties, so that they can protect themselves from exploitation and maximization of consumer welfare can take place simultaneously taking care of quality of life of people and social welfare. Awareness can be generated by various processes like campaigns, advertisements, word of mouth etc. Typical responses were:

- You just cannot rely on awareness of consumer rights; you need to practice them as well, (AnYxiv).
- Half of the population doesn't know anything about the consumer rights and duties. Most of consumer awareness campaigns are targeted towards right awareness, (AnYxv);

### Performance Query (Product/ Seller) (F4)

The responses were regarding the performance query (product/seller). This factor includes both dimensions, i.e., performance of the product as well as of the seller. Performance includes qualitative aspects like quality, history, efficiency etc. Typical responses were:

- One should be informed about the past performance of the product as protection is better than cure, (AnYxviii);
- Consumer should avoid buying products from a seller with bad reputation, (AnYxix);



## Awareness of Redressal Mechanism and Willingness to utilize it (F5)

The responses were regarding the awareness of redressal mechanism and willingness to utilize it. Redressal mechanism means procedure for setting things right in case of any problem with quality of the products or performance or durability etc. Typical responses were:

- Even the highly educated elite class doesn't know the redressal mechanism, (AnYxxi);
- Most of the dissatisfied consumers either adopt exit strategy or continue with same product, (AnYxxii);
- Assumption breaking in our society about going to consumer courts is must, (AnYxxiii);

## Price Awareness (F6)

The responses were regarding the price awareness. Price awareness means knowledge in the mind of consumer whether the price of the product is in the level or not. Typical responses were:

- I believe poor and middle class consumers are more aware than high income group consumers, they are more price conscious, (AnYxxv);
- In today's time of high inflation, one should switch to unbranded items, (AnYxxvi);
- Most of the consumer exploitation happens by pricing the same product/service differently in different market/scenario, (AnYxxvii);

## Purchase Negotiation (F7)

The responses were regarding the purchase negotiation and augmentation. This factor includes components like bargaining, discount etc. Typical responses were:

- No one understands that bargaining is a duty of every consumer, (AnYxxix);
- Why to buy any product on MRP if you can

avail discount coupons from various websites, (AnYxxx);

- A consumer just cannot rely on bargaining to make a smart purchase, (AnYxxxi);

## Risk Perception (F8)

The responses were regarding the risk perception. This factor implies amount of risk (in terms of satisfaction, efficiency etc.) consumer is ready to accept for the product. Typical responses were:

- Very few consumers take risk into account while making a purchase, be it the financial risk or the social risk, (AnYxxxiv);
- Patients buy drugs without proper prescription risking their lives, (AnYxxxv);

## Participating in Consumer Movement (F9)

The responses were regarding the participating in consumer movement. This factor means support and involvement from consumer towards mass consumer awareness. Typical responses were:

- Without the support of consumers no consumer awareness campaign can be successful, (AnYxxxviii);
- Every consumer should come forward and make and join consumer related organizations and NGO's, (AnYxxxix);

## Environmental Compliance (F10)

The responses were regarding the environmental compliance. Environmental compliance means awareness about environmental friendly usage, green environment etc. Typical responses were:

- Green consumerism is the new agenda of consumer awareness campaigns, (AnYxlili);
- Low income group consumers don't find any reason to buy eco- friendly products, (AnYxliv);

### Identifying the Market (F11)

The responses were regarding the point of purchase and the characteristic responses were:

- An aware consumer always compares prices of same product in different markets, (AnYxlvii);
- Point of purchase should be identified before you go to shopping; otherwise it will lead to unplanned purchase and hence increases your chances to get exploited, (AnYxlviii);

### Identify the Financing (F12)

The responses were regarding the identifying the financing and the characteristic responses were:

- Opportunity cost should be taken into account before making a purchase, (AnYlii);
- Higher income group people never take source of finance into account, (AnYliii);

### Consumption Culture (F13)

The responses were regarding the consumption culture. This factor includes way in which the money is spent. Typical responses were:

- Being aware is not enough; you should be a smart consumer i.e. sustainable consumption, (AnYlvi);
- In this modern age value of money has decreased so much that people buy out luxury goods even if not needed right away, (AnYlvii);

### Product Usage (F14)

The responses were regarding the product usage. This is a post-purchase factor which means knowledge in customer about the best usage process of products. Typical responses were:

- Handle your product with care, fewer defects, less complaints and a better buyer-seller relationship, (AnYlix);
- Tell me who keeps cash memo and guarantee card safely after purchasing the product, (AnYlx);

All the purchase cycles can be divided into three phases i.e. Pre-purchase; Purchase and Post-purchase, whereas all factors regarding consumer awareness have been divided into three categories; Pre-purchase; Purchase and Post-purchase as shown in *Table 2*, *Table 3* and *Table 4*.

Table 2: Pre Purchase Factors of Consumer Awareness

Factor	Source
Right Awareness	Grounded Theory
Performance Query (Product/Seller)	Grounded Theory
Risk Perception	Assael (1984) & Grounded Theory
Identify the Market	Andreasen (1985) & Grounded Theory
Identify the Financing	Grounded Theory
Consumption Culture	Grounded Theory



Table 3: Purchase Factors of Consumer Awareness

Factor	Source
Price Awareness	Assael (1984) & Grounded theory
Purchase negotiation and augmentation	Grounded theory
Product evaluation and inspection	Rousseau (1991) & Grounded theory
Environmental compliance	Walters and Bergiel (1989) & Grounded theory
Consumer knowledge	Grounded theory

Table 4: Post Purchase Factors of Consumer Awareness

Factor	Source
Awareness of redressal mechanism and Willingness to utilize it	Hawkins, Best and Coney (1986) & Grounded theory
Participating in consumer movement	Grounded theory
Product usage	Grounded theory

## Construction of Consumer Awareness Index (CAI)

The steps as mentioned above are followed for construction of CAI. First, a set of factors for measuring consumer awareness index are identified, consisting of three categories: Pre purchase; Purchase; Post purchase. These parameters are listed in Table 2, Table 3 and Table 4. Subsequent steps are as follows:

- **Development of Questionnaire**

Various factors are identified and then grouped under various categories. Then, the next step is to obtain relevant details to process all these factors in a systematic way. A questionnaire is made having 60 questions, giving importance to all factors. Five point Likert scale was considered to collect information from the respondents. Responses are then recorded with value '5' meaning "completely agree" and value '1' meaning "completely disagree". A panel of 10 consumer experts was formed from various geographical location of the country to avoid any kind of biased result and for better validation of content.

Extent of overlap of items in the questionnaire was determined by (Lawshe, 1975) and then the domain is constructed. For every item in the questionnaire Lawshe's CVR was calculated. C.V.R. value of '1' meant that all raters indicated the item as essential, value of '0' meant when half of the respondents indicated the item as essential, and value of '-1' meant when none of the raters indicated it as essential. Minimum C.V.R. value for ten panelists was 0.62. After following this procedure, 41 items qualified.

- **Sample**

A hierarchical random sample [N = 350] was considered from New Delhi and Meerut District, Uttar Pradesh in India. The sample was grouped according to their age, gender, family size, education and their income distribution.

The sampling was done by two field workers and the questionnaire was made in both the languages English and Hindi for better results. For data collection, respondents were approached not only in markets but also in their houses also. It is made sure that each question was filled properly by taking necessary care. The descriptive statistics of the sample are as shown in Table 5.

Table 5: Descriptive Statistics of the Sample

Sample Group	Sample Value	Values [N=255]
<b>Gender</b>	Male	134 (53 %)
	Female	121 (47 %)
<b>Age</b>	Below 25	84 (33%)
	25-40	95 (37%)
	41-55	64 (25%)
	Above 55	12 (5%)
<b>Education</b>	Postgraduate	53 (21%)
	Graduate	152 (60%)
	Passed Senior Secondary	30 (12%)
	Passed High school	20 (8%)
<b>Income (Rs.)</b>	Below 60, 000	34 (13%)
	60,000 – 1,50, 000	58 (23%)
	1,50, 000 – 5,00, 000	71 (28%)
	5,00, 000 – 10,00, 000	68 (27%)
	Above 10,00,000	24 (9%)
<b>Household Size</b>	5 or more than 5	69 (27%)
	4	98 (38%)
	3	54 (22%)
	2	18 (7%)
	1	16 (6%)
<b>Place of stay</b>	Metro	106 (41%)
	City	97 (38%)
	Town	38 (15%)
	Village	14 (6%)

#### • Data Analysis

The most important thing of concern after data collection is reliability of the content. In order to ensure this, Cronbach's alpha is also calculated along with the factor analysis. Factor analysis is considered

to check for reliability in the content and indicate the items having large loading will be considered for evaluating value of Cronbach's alpha. Factor analysis is the most widely used analytic tools techniques in the current marketing research (Stewart, 1981).



Using SPSS 17.0, factor analysis was performed to lower down the factors responsible for CAI (George, 2011). To get maximum inter-linkages between the factors Varimax rotation method is used. Table 6 shows the result obtained from factor analysis. The factors having a loading value higher than '0.5' and an Eigen value greater than '1' are only considered for CAI construction.

It is reported in 29 articles only 26 articles from the journal of "The Journal of Agricultural Education" that Cronbach's alpha should be used to measure of internal consistence (Warmbrod, 2001). Cronbach's alpha value generally lies in the range from 0 to 1. However, the lower limit value can actually go beyond than this. The value of Cronbach's alpha is proportional to the internal consistency of the items. As per George and Mallery (2003) these are the following rule of the thumb: "\_ > .9 – Excellent, \_ > .8 – Good, \_ > .7 – Acceptable, \_ > .6 – Questionable, \_ > .5 – Poor and \_ < .5 – Unacceptable".

Factors having high loading values are used for calculation of Cronbach's alpha and the data obtained are mentioned in Table 7. Only 9 factors qualify the above criteria. Then, consumer awareness index is calculated with the help of these 9 factors. Table 6 displays factor means score for demographic variables.

Table 6: Factor Analysis and Eigen Values

- General consumer knowledge
- Purchase negotiation and augmentation
- Right Awareness
- Risk perception
- Participating in consumer movement
- Price Awareness
- Willingness to redress complaints and awareness of channels of complaint handling
- Environmental compliance
- Performance query (product/seller)

Questions	A	B	C	D	E	F	G	H	I
You check expiry dates on the products brought	0.585								
You ask for demonstration regarding how to operate while buying a product.	0.527								
You enquire about after-sales service and ensure availability, phone number, address and email of service	0.507								
You insist for approved sale bill with serial number, address, Phone number, etc.	0.751								
You look for guarantee on expensive products before purchase.	0.775								
You look for quality marks such as ISI, Agmark etc. while buying a product.	0.632								
You use products as per instruction given in user manual.	0.716								
You keep cash memo and guarantee card safely.	0.744								
You check newspapers for bargains.		0.788							

Questions	A	B	C	D	E	F	G	H	I
You check newspaper and magazines for specials before deciding where to shop.		0.701							
You investigate "specials" advertised on radio and TV		0.723							
You use coupons for getting best deal.		0.722							
True or False Right to be Informed-About price, quality, purity			0.567						
True or False Right to be Heard- Consumers interest and welfare must be taken care?			0.666						
True or False Right to Consumer Education - Knowledge about goods and issues related to consumers			0.813						
True or False Right to seek Redressal-Protection against unfair trade practices and settling genuine grievances.			0.569						
You take risk related to the product life into account while making a purchase decision.				0.790					
You take risk as a factor affecting your purchase decision especially in drugs.				0.823					
You helped/consulted anyone in solving his problem related to consumer exploitation.					0.894				
You part of any consumer problem handling or consumer awareness organization					0.640				
You compare prices of same product available in different market before purchasing to take advantage of lowest priced						0.734			
Price is the most important factor in choosing an item.						0.762			
In case you came across a defective product or adulteration, you took some action or consulted any consumer problem handling organization.							0.575		



Questions	A	B	C	D	E	F	G	H	I
You know the procedure to file a case in the consumer court.							0.702		
Which option do you prefer out of these: Cheaper but non ecofriendly product. A bit expensive but ecofriendly product.								0.646	
You refuse taking polythene bags.								0.523	
Do you enquire about past performance of the product and service before purchasing?									0.551
Do you enquire about reputation of products/seller/service provider before purchasing?									0.543
<b>Eigen Values</b>	<b>3.965</b>	<b>2.535</b>	<b>2.087</b>	<b>2.077</b>	<b>2.049</b>	<b>1.950</b>	<b>1.683</b>	<b>1.625</b>	<b>1.505</b>

**Table 7: Cronbach Alpha analysis of factors**

Factor No	Factor	Cronbach's Alpha
1	Consumer knowledge	0.833
2	Purchase negotiation and augmentation	0.688
3	Right awareness	0.655
4	Risk perception	0.588
5	Participating in consumer movement	0.670
6	Price Awareness	0.578
7	Willingness to redress complaints and awareness of channels of complaint handling	0.659
8	Environmental compliance	0.612
9	Performance query (product/seller)	0.589

Table 7 clearly shows that from a total of 13 factors only 9 factors are statically non-overlapping. Moreover consumer knowledge overlapped with Product evaluation & inspection and purchase

negotiation whereas factors such as identifying the financing or consumption culture are found to be insignificant with eigenvalue less than 1.

Table 8: Factor – Income Scores

Income	X1	X2	X3	X4	X5	X6	X7	X8	X9
Below 60,000	0.03	-0.36	0.18	0.03	0.23	-0.24	0.27	0.29	0.28
60,000-1,50,000	0.13	-0.23	0.06	-0.22	0.12	-0.18	-0.03	0.11	0.16
1,50,000-5,00,000	0.06	-0.11	-0.15	-0.12	0.19	0.07	-0.07	-0.03	0.07
5,00,000-10,00,000	-0.21	0.03	-0.23	0.02	-0.03	0.22	0.17	-0.13	-0.17
Above 10,00,000	-0.32	0.12	-0.11	0.09	0.04	0.27	0.12	-0.22	0.11

In Table 8 shows lower score suggests positive response and higher score represents a negative response. According to above table only high income groups have high consumer knowledge. Low income group people are more prices conscious etc.

#### • Consumer-Driven Weights Derivation

After obtaining data related to all relevant factors, the next step for development of CAI is to give proper weights to all these factors. The weights of these factors might vary from region to region.

The factors of consumer awareness used in the questionnaire along with the relative weights and average scores are mentioned in Table 9.

From the analysis of the data, it can be concluded that right awareness is the prominent factor for consumer awareness followed by consumer knowledge and performance enquiry. This also shows that majority of the samples were high on right awareness and low on participation in consumer participation. This also shows that majority of the samples were high on right awareness and low on participation in consumer participation. At same time we can concluded that for Delhi consumer awareness index (CAI) can be given by following equation:

$$CAI_{Score} = a_1X_1 + a_2X_2 + a_3X_3 + a_4X_4 + a_5X_5 + a_6X_6 + a_7X_7 + a_8X_8 + a_9X_9$$

Where  $X_1, \dots, X_9$  are factors of consumer awareness (listed in Table 8)

Table 9: Average score &amp; Weights of the Factors

Factor No	Factor	Average Score	Weights
1	Consumer knowledge	4.09	0.13
2	Purchase negotiation and augmentation	2.76	0.09
3	Right awareness	4.41	0.15
4	Risk perception	3.33	0.11
5	Participating in consumer movement	2.15	0.07
6	Price Awareness	2.91	0.10
7	Willingness to redress complaints and awareness of channels of complaint handling	3.12	0.10
8	Environmental compliance	3.56	0.12
9	Performance query (product/seller)	3.97	0.13



And  $a_1, \dots, a_9$  are consumer driven weights of each factor.

In our case CAI is given by

$$CAI_{Score} = .13X_1 + .09X_2 + .15X_3 + .11X_4 + .07X_5 + .10X_6 + .10X_7 + .12X_8 + .13X_9$$

So the total score of any individual living in that region can be evaluated with the help of above calculated weights.

## Limitations

The quest for universal parameters of consumer awareness is very challenging. The factors may vary a lit bit from country to country. Marketers or policy makers can evidently classify cohorts of region surrounded in near similar cultural ethical norms. In these circumstances, CAI parameters weight will fluctuate and consequently each cohort will have its own weights.

## Conclusion

Consumer awareness index can prove to be a cutting edge tool for both industries and policy planners. For example say a policy maker wants to check the impact of consumer awareness campaign in a particular region; so that they can derive the consumer driven weights by the above methodology and then conducts a survey prior to commencement of the campaign. They can very well calculate the mean consumer awareness index in the area. Now after the campaign is over the policy maker will again conduct a survey in the same region to check whether the mean consumer awareness has increased or not (using the same CAI equation).

CAI will work as an innovator tool as its weights decide the weaker factor of consumer awareness in the given region and hence a consumer awareness campaign focused on that particular factor of consumer awareness can be designed. Similar to Human Development Index being used to judge any nations development, CAI could also be used to judge awareness of consumers. Hence, CAI has the aptitude to become the future foundation for the consumer movement.

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