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AN AHP BASED EXPERT STUDY OF INTRINSIC PSYCHOLOGICAL DETERMINANTS OF APPAREL PURCHASES IN AN INDIAN METROPOLITAN CITY

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ABSTRACT

In today's competitive market, understanding the drivers of consumer purchase decisions is critical for the retailers. This study uses an expert based Analytic Hierarchy Process (AHP) to prioritize six intrinsic psychological factors namely motivation, attitude, perception, learning, personality and self-esteem believed to influence apparel purchase decisions in Kolkata's organized retail sector. Three domain experts selected on the basis of their experience provided pairwise comparisons. Group judgments were aggregated using the geometric mean method. Individual and aggregated values of maximum eigenvalue (λ max), consistency index (CI) and consistency ratio (CR) were computed. All CR values were below 0.10, indicating acceptable consistency of expert judgments. Final AHP results revealed motivation (44.72%) as the most influential factor, followed by attitude (24.30%), perception (14.42%), self-esteem (7.43%), learning (7.05%), and personality (3.45%). Results of the study suggest marketers to concentrate on motivational stimuli, attitudinal interventions, perceptual cues and communication strategies to influence customers for purchase. However, small expert panel, lack of direct consumer feedback and confinement to one city are limitations of the study. Future studies with more experts and consumer feedback across different cities can validate the findings. Multi-criteria decision approach for pair wise comparison and ranking of internal factors adds to the literature in the area of consumer psychology. The study provides practical recommendation to the marketers to shape consumer perception and their purchase behaviour.

Keywords: Purchase Decisions, Intrinsic Factors, Analytic Hierarchy Process, Pairwise Comparisons, Expert Judgments, Ranking of Factors, Consumer Psychology

INTRODUCTION

Consumers are neither identical nor homogeneous in nature. This makes it difficult to predict their habits and preferences. Consumer needs, their aspirations and expectations change rapidly in today's dynamic world. Consumption pattern also changes becoming more complex and unpredictable. Both external and internal factors influence consumption patterns. Social media, peer groups, family and friends influence an individual and his habits. Along with these, internal decisions also influence an individual. The combined effect of multiple factors influences an individual's purchase behaviour making it complex. Socio-cultural effects, economic trends, technological advancements along with psychological factors influence purchase behaviour of an individual. Qazzafi (2020) remarked from his studies that consumer knowledge, advancement in technology and changing pattern of socio-economics complicate matters for the marketers. A clear understanding of these factors and being flexible to changes helps

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businesses to grow and succeed. According to Al-Ghaswyneh (2019), consumption by an individual brings forth happiness and emotional gratification. Perceptions of individuals towards different products vary widely due to difference in needs, experiences, and contexts Nosi et al. (2020). Understanding the consumer and his needs is vital for the marketers. It is important for academicians and marketers as well, helping them develop marketing strategies to improve business performance. Consumer behaviour studies help to understand consumer demands. It provides vital clues to consumer purchase process. Anticipating consumer demands accurately is a difficult task. However, customer knowledge assists the retailers and marketers to take specific marketing decisions to fulfil customer demands.

Among various products used, apparels are a necessity item. An individual's clothing help to build their personal expression. Clothing is often used as a tool symbolising cultural identity and a sense of social belonging, Van et al. (2024). Therefore, buying apparels is inevitable. But it involves complex decision making process from choosing to ultimate buying. The interplay of external and internal factors and their influence on the individual adds to the complexity. This affects purchase decisions which ultimately shape consumer behaviour. Apparel retail outlets of different brands operate under the same roof. Fierce market competition urges the sellers to take additional efforts to satisfy the needs of customers. Solomon et al defines consumer behaviour as the study of how individuals, groups or organizations choose, buy, use or discard any product or service to fulfil their demands. Since it also investigates the reasons behind consumer choices, it proves to be a vital tool in the hands of the marketers. It helps them to build focussed marketing communications which are aligned to consumer aspirations.

Prior studies focussing on both external and internal influences on consumer choices have been found. But they fail to explain recent changes and current trends in apparel choices. Digital transactions, uncommon preferences of Generation Z consumers and shifting of trends in apparel wear, all these have increased the uncertainty in prediction of purchase behaviour. A detailed survey of existing studies reveals notable research on psychological, economic, social and cultural factors, but focussed investigations into core intrinsic factors like motivation, perception, personality, learning, attitude and self-esteem is scarce. Relative ranking of intrinsic factors influencing apparel purchase in an Indian metropolis is quite uncommon. Prior studies lack ranked ordering of these factors by using AHP for apparel purchases in an Indian metropolitan. To fill the knowledge gap, the current research makes an attempt to study the internal factors and their degree of their influence on the buying habit of a consumer with regard to apparels. Understanding the influence of each of these factors on purchase decision, comparing them pair-wise and prioritizing them in the context of Kolkata retail is the motto of the current study. The authors address this by using expert based approach, prioritizing key intrinsic psychological factors by using a popular multi-criteria decision approach, the Analytic Hierarchy Process (AHP). It was developed by Thomas L. Saaty, Saaty (1980). AHP is often used by managers to assist them in taking vital decisions in various management activities due to its popularity and easy approach. Complex decisions involving both quantitative and qualitative factors can be systematically evaluated by the AHP method. The application of AHP helps solving complex problems of decision making, breaking it into smaller hierarchical parts with overall goal, relevant criteria and feasible alternatives. Experts compare any two items at a time, saying which is more important and by how much. Expert judgments are compared pair wise and numbered, showing the relative importance, i.e. weights of each item. AHP runs consistency check to make sure that the judgments are coherent. Final priority and ranking of the factors are obtained from the combined weights. Consumer purchase behaviour is determined by the weightage of each factor. The resultant ranking of the factors helps marketers to devise marketing strategies. They need to focus on the most influential drivers. Identifying the internal drivers and reviewing their impact the present study proposes some practical steps for the marketers. Marketers should look upon product development and develop effective marketing interventions. This will help them gain a competitive advantage in the dynamic market environment. The current study applies AHP to rank internal factors in the Kolkata market offering managerial recommendations and provides methodology for future validation.

LITERATURE REVIEW

Consumer behaviour research is important but critical at the same time. Scholars and marketers both need to understand the reasons behind individual purchase decisions and identify factors influencing it. Studies by Solomon (2009), Chopra and Rao (2016) highlight external stimuli like price, promotion, store environment as well as internal factors like motivation, habit and identity to influence consumer choices. According to Blackwell et al. (2021), it's the behavioural pattern which customers show during information search, while comparing suitable alternatives before purchase and engaging in post purchase activities. Much of this behaviour is involuntary in nature. Consumers are not aware what shapes the way they interact with products during the stages of acquisition, consumption and disposal. Consumer responses are dynamic and vary from one individual to another. This makes it difficult to predict since individuals may often show different reactions towards the same product within similar contexts. The variability in behaviour calls for a detailed examination of the underlying determinants of consumer choices. Available literature shows that along with external market stimuli internal psychological factors are also responsible influencing consumer purchase behaviour. These internal factors are intrinsic in nature, shaping the way stimuli are interpreted, assessed and eventually acted upon throughout the decision making process Peter and Olson (2010).Past studies by Schiffman and Wisenblit (2019) and Solomon (2020) have emphasized the importance of internal factors, viz. psychological, cultural, social and personal influences all significantly influencing the preferences and purchase decisions of consumers. Past literature reveals product, store, promotion and experiential factors as key determinants to consumer purchase behaviour in the Indian apparel sector. Bhardwaj et al. (2022) recognised style,

branding and shopping involvement as the main drivers. Kumar and Kanchan (2019) highlighted price, style and quality as the main influencers to purchase decisions. Trivedi and Joshi (2024) studied the effect of situational cues on impulsive buying behaviour. Study by Chakrapani (2015) concluded that Indian consumers prefer to blend modern style with traditional preferences and consumer value consciousness. A more focussed examination of the core internal factors, viz. motivation, perception, personality, learning, attitude and self-esteem becomes pertinent to properly understand the needs of particular consumer groups and their purchase decisions.

Motivation is the intrinsic urge that pushes an individual towards a specific goal either to remove discomfort or to obtain something which is missing Hawkins and Mothersbaugh (2019). Maslow (1943) proposed the hierarchy of needs, where motivation acts as an individual's progression as he moves from basic needs towards higher level needs. According to Moutinho (2000), motivation is that condition of the mind which makes an individual work to attain satisfaction. Similar views were shared by Jisana (2014) on her studies on different models of consumer behaviour, which were affected by different levels of motivation. Perception is the process by which an individual interprets certain sensory stimuli and acts likewise, Moutinho (2000). Perception shapes customer minds to different marketing cues through selective attention, information distortion and partial retention, Kotler & Keller (2016). A stimulus is usually an external input affecting an individual's senses. Perception helps an individual to receive the information, absorb it and act on it. According to Agyekum et al. (2015) the understanding of the perception process is important to the manufacturer since purchase decision of consumers is influenced largely by the attribute which a successful marketer lends to the product.

Personality is an internal concept of an individual. It ascertains the effect of an individual's past experiences on his or her present behaviour. According to Stavkova et al. (2008), personal behaviour and inner characteristics of an individual builds his or her personality. The personality of an individual is unique in nature. One of the earliest studies by Dholakia (1978) found that personality traits govern consumer purchase behaviour. Personality traits encompass openness of one's mind, self-confidence and risk tolerance influencing apparel purchase decisions and brand attachment, Kassarjian (1971), Goldsmith and Flynn (2015). From past literature, it is evident that among different psychological factors personality is an important component having an influence on consumer purchase decisions. Again, Moutinho (2000) defines learning as gaining new knowledge and responding to external environment. The learning from past experiences in shopping and repeating it over time shape consumer behaviour, Hoyer et al. (2021). Learning helps individuals to solve problems and judge present circumstances in the light of past experiences and acquired knowledge. The knowledge level of consumers shapes their purchase decisions, Stavkova et al. (2008). Furthermore, Solomon et al. (1999) and Schiffman et al. (2008) refer to the stimulus-response behaviour based on the behavioural learning and concluded that learning is the outcome as a result of responses to external cues. Personal feelings and thinking of an individual gives rise to one's attitude and beliefs. Ajzen (1991) proposed that an individual's attitude significantly affected brand perceptions and purchase intentions.

Moutinho (2000) highlighted the influence of learning and experience on an individual's attitude. Attitude shapes an individual's response pattern towards specific products. Early studies by Sirgy (1982) concluded that self-esteem and self-concept of an individual is responsible for building a particular social image. Self-esteem of an individual grows from past behaviours and experiences reflecting an individual's sense of worth, Sages and Grable (2011). It helps to determine an individual's present and future behaviour. It has a key role in consumer segmentation, aiding retailers to position their products strategically. Marketers should keep in mind the above factors related to an individual belonging to a specific target group.

Recent studies in the Indian apparel sector highlight the importance of shopping styles, digital marketing, brand importance and demographic differences in apparel buying. However, comparative empirical examinations prioritising core intrinsic factors remain limited in the Indian metropolis context. Moreover, only a few studies apply structured multi-criteria decision-making techniques (AHP) to obtain a transparent ranking of intrinsic factors and that too in the Kolkata context. Lack of suitable literature on AHP usage in the Kolkata context paves the way for the current study. It utilises expert-based AHP study producing pair wise comparison and prioritisation of internal psychological determinants for apparel purchase decisions in Kolkata.

METHODOLOGY

The present research is descriptive and analytical in nature conducted in Kolkata, an eastern metropolitan city of India. The study aims to prioritize the internal psychological determinants that influence apparel purchase behaviour. Expert based Analytical Hierarchy Process (AHP) was used for pair wise comparisons and prioritization of the identified factors. Secondary data were gathered from a review of relevant journals and books.

EXPERT SELECTION AND PROFILE

Three experts with different domain expertise were identified and chosen for the AHP process. The selection criteria of the experts were their experience and number of years in relevant field. A minimum of 10 years' experience was mandatory. The first expert specialized in retail and service marketing which helped to judge the purchasing intention of the potential customers. The second expert specialized in sales of apparels from the local made to some of the most prestigious brands knowing the pattern of customers' needs. The third expert was an academician teaching product and services marketing and consumer behaviour. All the

three experts gave informed consent to participate in the study. They were contacted individually, briefed on the current study and handed over the AHP questionnaire for their opinion. The questionnaire was filled by the experts and was used to construct a framework for the internal factors based on the priority weights and their degree of influence on individual purchase decisions. The AHP technique was used to analyze the feedback of the experts. Although the panel of experts is small and it is subsequently acknowledged in limitation, the complementary domain knowledge and substantial experience make this expert opinion approach appropriate for exploratory prioritisation.

The panel of experts were briefed about the research and its purpose individually. The feedback collection instrument was handed over and after a stipulated time interval was collected from them. The experts gave their judgments and evaluated the importance of the elements relative to each other using the standardized 1-9 Saaty scale provided in Table 1. Based on their judgments, elements were compared pair wise and the resulting matrices were constructed. To exemplify, if two factors *a* and *b* were compared to know the relative importance of one against the other, they were rated on the different scale values of 1-9 Saaty scale. If factor *a* is rated as *n*, then factor *b* is rated as $\frac{1}{n}$ (*n*= 1,3,5,7,9 or 2,4,6,8). In this case, for the first pair-wise comparison between motivation and perception, motivation was rated as 3 times more important than perception, and therefore perception was automatically rated as 1/3 as important as motivation. The individual judgments so obtained were organized into a 6x6 reciprocal matrices. The normalized priority weights of the elements were computed. AHP computations were done in Microsoft Excel (Office 365) because of its flexibility in handling pair-wise comparison matrices and its suitability for performing eigenvalue and consistency analyses. The maximum eigen-value denoted by λ max was computed along with consistency index (CI) and consistency ratio (CR). A CR value below 0.1 indicated acceptable logical consistency. For a consolidated judgment representing the group consensus, the geometric mean value was calculated across all the matrices from the experts. The priority vector was then computed representing the relative weights of each factor. The factors were ranked according to their computed weights to determine their degree of importance on purchase decision.

To assess the reliability of the results of AHP Kendall's coefficient of concordance (W) and the standard deviation (SD) of the assigned weights of each factor was computed. These measures quantify the degree of agreement among the three experts and evaluate the stability of the derived priority weights of the factors. Kendall's coefficient of concordance (W) or simply Kendall's (W) measures the agreement among multiple experts who rank the same items. The coefficient range of Kendall's (W) ranges from 0 (no agreement) to 1 (perfect agreement). In addition, SD was computed for the priority weights of the factors to assess stability and dispersion of judgements.

THE AHP PROCEDURE

Clarify the objective for which decision has to be taken prior to the analysis. The objective was to find influence of intrinsic factors on the purchase behaviour of consumers regarding apparels.

Step 2: Constructing a hierarchical framework based on decision-making criteria and factors

It is the splitting of the decision process into criteria and factors, depending on the baseline characteristics and developing the hierarchical model with multiple levels. Past review of literature helped to identify the factors for comparison. The identified factors were motivation, perception, personality, learning, attitude and self-esteem.

Step 3: Creating a questionnaire with pair-wise comparisons showing the significance of one factor relative to the other

AHP determines the significant priority weights of the identified factors and rank their criteria based on paired comparisons. Saaty's scale of 1 to 9 Table 1 was utilized for the paired comparison.

Step 4: Computing λ max, the biggest Eigen value and the CI, the consistency index.

$$CI = \frac{\lambda\max - \mathrm{n}}{n - 1}$$

Step 5: Computing the consistency ratio (CR) by the formula $CR = \frac{CI}{RI}$

where RI indicates Random Index. The extreme value of CR is 0.1, so all values less than 0.1 are deemed to be satisfactory.

Table 1

Table 1 AHP Scale of Importance for Comparison Pair

Intensity of Importance	Definition	Explanation
1	Equally important	Both activities have equal contribution to the objective
3	One is moderately important than the other	Experience and judgement slightly favour any one activity
5	Essentially or strongly important	Judgement backed by experience strongly favour any one activity

7	Very strong importance	One activity is favoured strongly with its dominance
9	Extreme importance	One activity is favoured over another possibly in the highest order of affirmation
2, 4, 6,8	These are values between two adjacent judgements	Whenever a settlement is required between two judgements

Source Saaty (1980)

RESULTS

This section summarizes the pair-wise comparisons as provided independently by three domain experts through the Analytical Hierarchy Process (AHP). Each expert gave a 6x6 pair-wise comparison matrix for the six internal factors namely motivation, perception, personality, learning, attitude and self-esteem, to study their influence on apparel purchase behaviour. For each matrix, the principal eigenvector (local weights), maximum eigenvalue (λ max), the consistency index (CI) and the consistency ratio (CR) was computed. The 6x6 matrices for all the 3Experts are given below;

$$E1 = \begin{Bmatrix} 1 & 3 & 8 & 9 & 2 & 7 \\ 1/3 & 1 & 4 & 3 & 1/2 & 2 \\ 1/8 & 1/4 & 1 & 1/2 & 1/9 & 1/3 \\ 1/9 & 1/3 & 2 & 1 & 1/4 & 1 \\ 1/2 & 2 & 9 & 4 & 1 & 3 \\ 1/7 & 1/2 & 3 & 1 & 1/3 & 1 \end{Bmatrix}$$

$$E2 = \begin{Bmatrix} 1 & 4 & 9 & 9 & 3 & 7 \\ 1/4 & 1 & 5 & 4 & 1/2 & 2 \\ 1/9 & 1/5 & 1 & 1/2 & 1/8 & 1/3 \\ 1/9 & 1/4 & 2 & 1 & 1/3 & 1 \\ 1/3 & 2 & 8 & 3 & 1 & 4 \\ 1/7 & 1/2 & 3 & 1 & 1/4 & 1 \end{Bmatrix}$$

$$E3 = \begin{Bmatrix} 1 & 3 & 7 & 8 & 2 & 6 \\ 1/3 & 1 & 4 & 3 & 1/3 & 2 \\ 1/7 & 1/4 & 1 & 1/2 & 1/7 & 1/3 \\ 1/8 & 1/3 & 2 & 1 & 1/3 & 1 \\ 1/2 & 3 & 7 & 3 & 1 & 3 \\ 1/6 & 1/2 & 3 & 1 & 1/3 & 1 \end{Bmatrix}$$

Subsequent step by step calculations of the normalized pair-wise matrix and computation of the ratio of weighted sum value and criteria weights for Expert 1 is shown below,

Table 2

Table 2 6 x 6 Filled Matrix from Expert 1

	M	P1	P2	L	A	SE
M	1	3	8	9	2	7
P1	1/3	1	4	3	1/2	2
P2	1/8	1/4	1	1/2	1/9	1/3

L	1/9	1/3	2	1	1/4	1
A	1/2	2	9	4	1	3
SE	1/7	1/2	3	1	1/3	1

In the above 6x6 matrix, M= motivation, P1=Perception, P2= Personality, L=Learning, A=Attitude and SE= self-esteem

Table 3

Table 3 Converting the Fraction into Decimals and Finding the Sum of Each Column

	M	P1	P2	L	A	SE
M	1	3	8	9	2	7
P1	1/3	1	4	3	1/2	2
P2	1/8	1/4	1	1/2	1/9	1/3
L	1/9	1/3	2	1	1/4	1
A	1/2	2	9	4	1	3
SE	1/7	1/2	3	1	1/3	1
SUM	2.21230159	7.083333	27	18.5	4.194444	14.33333

Table 4

Table 4 Normalized Pair-Wise Matrix and Finding the Sum of Each Row

	M	P1	P2	L	A	SE	SUM
M	0.4527	0.4237	0.2960	0.4860	0.4770	0.4880	2.6234
P1	0.1494	0.1412	0.1480	0.1620	0.1190	0.1395	0.8591
P2	0.0565	0.0353	0.0370	0.0270	0.0260	0.0230	0.2048
L	0.0502	0.0466	0.0740	0.0540	0.0590	0.0697	0.3535
A	0.2263	0.2824	0.3330	0.2160	0.2380	0.2093	1.5050
SE	0.0640	0.0710	0.1110	0.0540	0.0780	0.0697	0.4477

Table 5

Table 5 Computation of the Ratio of Weighted Sum Value and the Criteria Weight

	M	P1	P2	L	A	SE	SUM	Criteria Weights	Ratio
M	0.4372	0.4296	0.2728	0.5301	0.5294	0.5222	2.7213	0.4536	6.2240
P1	0.1443	0.1432	0.1364	0.1767	0.1323	0.1492	0.8821	0.1470	6.1599
P2	0.0546	0.0358	0.0341	0.0294	0.0290	0.0246	0.2075	0.0346	6.0850
L	0.0485	0.0472	0.0682	0.0589	0.0662	0.0746	0.3636	0.0606	6.1730
A	0.2186	0.2864	0.3069	0.2356	0.2647	0.2238	1.5360	0.2560	5.8000
SE	0.0624	0.0716	0.1023	0.0589	0.0873	0.0746	0.4571	0.0762	6.1270
								SUM	36.5689

Calculation (Expert 1)

λ max $= \frac{sum\ of\ the\ ratios}{n} = \frac{36.5689}{6} = 6.094$

CI $= \frac{6.094-6}{6-1} = \frac{.09487}{5} = 0.0189$ CR $= CI/RI = CI/1.24 = 0.01524$

Similarly, computed values for the other 2 experts are given below,

(Expert 2) λ max $= \frac{37.0002}{6} = 6.1667$

CI = $\frac{6.1667-6}{6-1} = \frac{.1667}{5} = 0.03334$ CR = $CI/RI = CI/1.24 = 0.02684$

(Expert 3) λ max $= \frac{39.2620}{6} = 6.5436$

CI = $\frac{6.5436-6}{6-1} = \frac{.54366}{5} = 0.1078$ CR = $CI/RI = CI/1.24 = 0.0876$

As shown above, the CR value so obtained for all the 3 experts is less than 0.1 which signifies consistency and therefore the judgments and numerical estimates of all the 3 experts is acceptable. The values of Random Consistency Index, RI is obtained from the RI table, Saaty (1980), which is given below for reference.

Table 6

Table 6 Random Consistency Index, RI

Matrix size	1	2	3	4	5	6	7	8	9	10
RI value	0.00	0.00	0.58	0.90	1.12	1.24	1.32	1.41	1.45	1.49

Source: Saaty (1980)

CI, CR and λ max values so obtained are tabulated as shown in Table 7.

Table 7

Table 7 Expert Priority Vectors (Geometric Mean) with Weight Percentage

Factor	Expert 1(wt)	Expert 2(wt)	Expert 3(wt)
M: motivation	0.4372	0.4761	0.4202
P1: perception	0.1432	0.1458	0.1416
P2: personality	0.0341	0.0317	0.0375
L: learning	0.0589	0.0571	0.0933
A: attitude & beliefs	0.2508	0.2205	0.2552
SE: self-esteem	0.0746	0.0684	0.0794

Synthesizing individual expert judgments, the group consensus was found out. Geometric mean of the corresponding pair-wise matrices was computed as suggested by Forman and Peniwati (1998). This approach preserves the reciprocal property of the matrices as obtained from AHP and were used for group decision making. The resultant aggregate was used to compute the final priority vectors which is given below,

Table 8

Table 8 Consistency Checks for λ Max, CI and CR and Aggregated Values

Expert/Source	λ max	CI	CR
Expert 1	6.0940	0.01880	0.01524
Expert 2	6.1664	0.03328	0.02684
Expert 3	6.5436	0.10860	0.08760
Aggregated value	6.2676	0.05353	0.04322

All the computed values of CR are well below 0.1, the threshold value and therefore it may be concluded that the individual expert judgments and the aggregated group judgment are consistent and acceptable. The final group weights and the ranking of the internal factors are systematically tabulated in Table 9.

Table 9

Table 9 Group Weights and Ranking of Factors Obtained from Paired Comparisons

Factor	Weights	Weightage %	Rank
M: motivation	0.4472	44.72	1
P1: perception	0.1442	14.42	3
P2: personality	0.0345	3.45	6
L: learning	0.0705	7.00	5
A: attitude & beliefs	0.2430	24.30	2
SE: self-esteem	0.07435	7.43	4

From the above table, it can be clearly stated that motivation received a weighted score of 0.4472, indicating strong expert consensus on its dominance. Attitude received a weightage of 0.2430 and perception 0.1442 indicating their position of dominance. Similarly, the other 3 factors received weighted score as follows; self-esteem (0.0743), learning (0.0705) and personality (0.0345).

Calculation of Kendall's coefficient of concordance (W)

6 factors have been rated by three domain experts. The ranks were added up for each item and the mean calculated. The sum of squared deviations was computed and Kendall's (W) was calculated using the formula,

$$W = \frac{12S}{m^2(n^3 - n)}$$

Where *m* is the number of experts, *n* is the number of factors, S is the sum of the squared deviations of rank totals from mean rank total. The results are tabulated as shown below,

Table 10

Table 10 Kendall's Coefficient of Concordance (W) Values

Total internal factors (*n*)	Number of experts (*m*)	Kendall's (W)
6	3	0.975

The value of Kendall's (W) as calculated is 0.975 which shows that the ranking of the experts is extremely consistent to each other. The aggregated priority weights from AHP are reliable and stable in spite of panel size being small. The formula to convert Kendall's (W) to chi-square test statistic is given by,

$$\chi^2 = m(n-1)W$$

$$\chi^2 = 3 \times (6-1) \times 0.975 \ = 14.625$$

Substituting the values, the computed value of chi-square is 14.625. At 5% significance level (α =0.05) and degrees of freedom, df=5, ($p < 0.05$) the chi-square critical value is 11.07. Since the computed value of chi-square (14.625) is greater than 11.07, it can be safely concluded that the experts' ranking are consistent and the agreement among the three experts is statistically significant.

Calculation of standard deviation (SD) for each factor

For each of the 6 factors, weights from the 3 experts Table 7 were taken, mean of each calculated, then deviations calculated and then the computed values were used in SD calculation. The SD was calculated using the given formula,

$$SD = \sqrt{\frac{\sum(x_i - \bar{x})^2}{m-1}}$$

where x_i represents each expert's weight for a given factor. The results are tabulated as shown below,

Table 11

Table 11 Calculation of (SD) for Each Factor

Factors	Calculated SD
Motivation	0.0287
Attitude	0.0189
Perception	0.0021
Personality	0.0029
Learning	0.0204
Self-esteem	0.0055

All the calculated SD values are below 0.03, which means experts gave similar judgments. The SD values show very high agreement among the three experts for all 6 factors. The six internal factors with their weight percentage can be ranked with their influence on the purchase behaviour as given in Table 12.

Table 12

Table 12 Ranking of Internal Factors Influencing Purchase Behaviour

Factors	Rank	Final weights (%)
M: motivation	1	44.72
A: attitude & beliefs	2	24.30
P1: perception	3	14.42
SE: self-esteem	4	7.43
L: learning	5	7.05
P2: personality	6	3.45

Figure 1

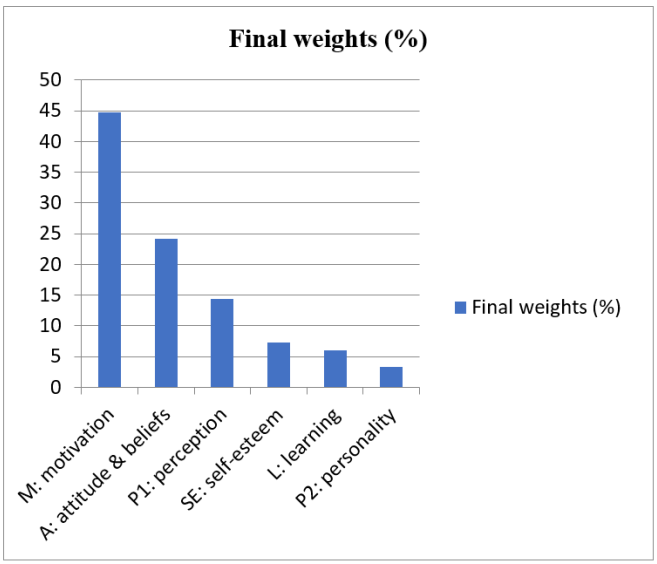

Figure 1 Final Weight Percentage and Ranking of Internal Factors

DISCUSSION

The Analytical Hierarchy Process (AHP) was applied using expert judgment to find out the relative importance of six internal psychological factors influencing purchase decision. All three experts provided independent paired comparisons and the computed consistency ratios (CR) were all well below the acceptable threshold of 0.10. This confirms that the experts' judgments were logically consistent and mathematically reliable, lending strong credibility to the derived priority weights. The λ max values for the three experts and the aggregate value of 6.2676 lie marginally above the value of 6, indicating no substantial inconsistency in the judgment matrices. However, all research findings and subsequent calculations are based on expert judgments. It may not be applicable to all consumers.

The AHP technique revealed Motivation the most important and dominant internal psychological factor influencing purchase decision, contributing 44.72% to the final weight. This strongly supports established consumer psychology theory indicating that motivation arousal functions as the initiating psychological trigger shaping consumer intention and behaviour. The findings match with earlier studies by Solomon (2021) who found out that beyond functional utility clothing is a symbol and serves emotional purposes also. Attitude and beliefs (24.30%) was the second highest contributor after motivation. This finding is in alignment with Ajzen (1991) which identified attitude as a key player of behavioural intention. To ensure stability of the expert judgments, the standard deviations of the AHP derived weights were computed for all the three experts. The SD values for all 6 factors were low which indicates high agreement between the expert's results. It also compliments high Kendall's coefficient (W=0.975) confirming the robust aggregated priority weights. Also, the results are in consistence with the conclusion from the works of Kumar et al (2021) whose findings reveal consumer attitude as an important mediator between external stimuli and purchase decisions in the Indian apparel sector. Perception (14.42%) ranked third, indicating that it has a major role in how consumers interpret and understand a product and its perceived value. In this case, it shows how consumer perceptions view brand image, style and perceived quality. Though perception shapes opinions, it directly does not lead to purchase decisions on its own, rather supports other psychological drivers that motivate purchase. The remaining factors, viz. self-esteem (7.43%), learning (7.05 %), and personality (3.45%) scored comparatively lower, which suggest that apparel shopping is largely situational and need-driven rather than being dominated by enduring personal traits.

THEORETICAL AND PRACTICAL IMPLICATIONS

The study highlights that situational and emotional factors like motivation, attitude and perception are dominant over other internal traits, personality and learning in case of consumer purchase behaviour. This proves that an individual's internal needs and incentives govern consumer choices. Attitude forms a substantial secondary influence while perception and self-esteem have less influence. Personality ranked last among the factors receiving the lowest weight implying internal trait differences are less determinative than cognitive factors for apparel purchase decision. The findings strengthen the logic for combining cognitive and motivational theories in consumer behaviour research for apparel products. Theoretically, the findings extend the SOR framework, Mehrabian and Russell (1974) by showing how internal factors like motivation and attitude mediate external stimuli with purchase decision.

MANAGERIAL IMPLICATIONS

The study confirms that retailers must design their marketing communication to stimulate the emotional and symbolic needs of the consumers. Marketers need to enhance perceptual cues by optimizing product display, clear brand positioning and visual merchandising. They also need to highlight quality and aesthetics to arouse a positive attitude and self-expressive motives. Loyalty programs and trend-based marketing could help consumers recall and repeat positive shopping experiences.

LIMITATION AND FUTURE RESEARCH

The current study has certain limitations. The study is based on only one city, Kolkata. The panel of experts with only three expert judgments might lead to biased values. Future studies with a large panel of experts and direct consumer feedback across multiple cities to validate AHP findings.

CONCLUSION

The research applied the AHP technique to find out the relative importance of six internal psychological factors namely motivation, perception, personality, learning, attitude and self-esteem and determine their impact on an individual and his purchase decision regarding apparels. A panel of three experts provided their judgments independently for pair wise comparisons of the six factors. The individual consistency ratios so computed (CR1=0.01524, CR2=0.02684, CR3=0.08760) are all below 0.1, the accepted threshold value. The individual λ max values (λ1 max=6.094, λ2 max=6.1664, λ3 max=6.5436) are all near 6.0, the ideal value. The values of λ max show high agreeable consistency of the model with validation. Furthermore, consistency checks confirm the

judgments to be valid and appropriate. The aggregated results were coherent and acceptable. Motivation with the highest weightage (44.72%) was the most influential factor determining purchase behaviour, followed by attitude (24.30%) and perception (14.42%). Kendall's coefficient of concordance (W) and standard deviation (SD) was computed for all the 6 internal factors to assess the stability and dispersion of experts' judgments. Together, these two statistical measures strongly validate the expert based AHP study.

The results reveal a clear dominance of situational drivers like motivation and attitude. Personality and learning have comparatively limited influence in this context. Research results suggest marketers to focus on interventions addressing consumer motivation and attitude. They should optimize the perceptual cues to drive consumers for purchase. Further suggestions to marketers include developing strategies to stimulate consumer motivation thereby reinforcing a positive attitude. From the context of apparel purchase in Kolkata market, this study finds motivation, attitude and perception as the three main psychological drivers of consumer purchase behaviour. Marketers should mainly harp on these three for targeted promotions, persuasive branding and experiential marketing of products. The application of the AHP technique provides a practical and systematic framework for ranking the internal factors. In practice, it would help the retailers to focus on strategic marketing interventions keeping in mind consumer priorities and their purchase behaviour.

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