DETERMINANTS OF TEENAGERS' INTERVENTION IN FAMILY PURCHASE DECISION: A SEM APPROACH

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ABSTRACT

With the rise of smart devices and digital platforms, marketing communication has now become convenient and effectively distributed through e-commerce and online channels. However, its success largely depends on the extent to which it is appropriately adopted and responded by the targeted population. Thus, this study acknowledges the growing penetration of the teen-segment into the use of e-gadgets and digital networking platform, which further indulge them in family purchasing decision. This study aims to empirically validate a conceptual model outlining the factors that influence teenagers' intervention in family purchasing decision. The sample was collected from the five northern Indian cities (Yamunanagar, Faridabad, Hisar, Bhiwani and Karnal) - by selecting 120 respondents from each city, resulting in total sample size of 600. The findings of this study are expected to provide valuable insights to the marketers and practitioners, aiding in effective development of their marketing strategies.

Keywords:

Teenagers Intervention, Technology Readiness, Consumer Innovativeness, Structural Equation Modelling, Purchase Decision.

INTRODUCTION

In today's era, considering the growing penetration of interactive gadgets, digital platforms, and e-commerce websites, which have been found to be a much easier channel for disseminating marketing communications. Even the chief marketing officers (CMOs) of European companies and North America have budgeted 9.1% of their total revenue on digital marketing promotions, observing the effective sales results and moreover planning to increase this proportion (Flores, 2025). Due to convenience in adopting such platforms, digital

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marketing has shown worldwide rapid growth, and it is further expected that the trend will reach up to $1310.3 billion in 2033, which used to be $366 billion in 2023 (Moorman et al., 2023). Similarly, the consumers of developing nations such as India have also started adapting to the digital platforms. Thus, it is a further matter of concern for marketers which age group should be targeted for disseminating product awareness digitally so that optimum results can be achieved. Expenditure made on digitally promotion would be advantageous only if targeted population provides the positive sales and revenue results and have dominant impact on the other age group also. Thus, it has now become the basic need for marketers to identify the age group that is more tech-savvy and an internet maven as well. With the thorough review of various reports/article it has been found that elder population are using the electronic gadgets and internet users but may not be much effective to be targeted for marketers' point of view. The report titled, 'Global Internet Users Age Distribution 2021' revealing facts in the same context suggests that consumers lying between the age group of 45–54 years and 55–64 years have been found the internet users 11.9% and 7.3% respectively (Petrosyan, 2023). Thus, due to having such a low proportion, it may not be advantageous to target these consumers for marketing communications. Thus, the Indian marketers are still striving to identify which age group is most active that needs to be more focused upon in order to achieve positive results in terms of their sales & revenue.

On the other side, teenage segment has been found more active user for digital communication in developed nations. The survey conducted on US teens revealed that 46% of teenagers utilize the internet constantly in 2023, which is approximately double that of in the year 2014–15, which was only 24% (Atske and Atske, 2024). Similarly, the survey conducted on Indian youth titled, 'Patterns of Internet Usage among Youths in India' found that 85% of non-adult users have now access to smartphones (Bohra, 2020). It is further depicted in the survey that most of them remain online five hours a day and 80% admitted to using social media (Bohra, 2020). Claiming in the same context, another survey report titled, 'India: Internet User Distribution by Age Group 2025' found that the people lying in the age group of 12-17 years and 18-34 years have been found 34 % and 31 % internet users respectively (Basuroy, 2023). Further study conducted by (Vasan, 2021) found that this generation is strongly connected with technology and devote their time in accessing internet and social networking service. This generation which is further known as the trend setter can also be categorized as the innovator and early adopters who sets the range of trends for the other consumers as well (Armagon, 2013). Innovators and early adopters refers to that part of population which are the earliest members in acquiring the innovation (Dedehayir et al., 2017). The rapid adaption towards technology has been noticed among this age group in the recent years. This generation tends to be easily influenced by their peer-group due to having entertaining elements in the technology (Apergis, 2019). Thus, it is suggested to marketers not to avoid this age group while formulating their marketing strategy as this segment is more efficient and curious towards technological changes. Hence, a specific attention is required for this segment that would help marketers in attaining their marketing as well as commercial objectives.

Teenagers as primary and secondary consumer

With the extensive review of various literature and reports, the authors have constructed the model that depicts the factors which intervene the teenagers for their family purchasing decision in today's era. After reviewing the previous literature, understanding the market scenario, and analyzing the purchasing trends, the authors have incorporated five major factors that are influencing the teenagers for the actual purchasing. Many factors have been noticed in the recent years in the Indian market, such as rising literacy ratios, increasing trends of dual-income families, more enthusiasm and adaptability towards electronic gadgets. These emerging developments have been proven quite beneficial for the government for achieving

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their goals, but somewhere these patterns are indirectly indulging the teenagers for their purchasing decision. For instance, a dual-income family is one of the crucial elements for the development of the Indian nation but has the drawback that parents fail to spend their time on their household shopping whereas the teenage children of the family exhibit their strong presence (Belch et al., 2005). The excessive usage of personal computers, smartphones, and high-speed internet connections is paving the way for their actual purchasing decision (sener, 2011). Moreover, the study strongly emphasize that teenagers are not only showing their immense presence for the purchasing related to their own consumption but for the family purchasing as well where they would be treated as secondary consumer (sener, 2011). Thus, this study has identified the five factors—higher product knowledge (PK), brand awareness (BA), technology readiness (TR), exposure to social media (SM), and family interaction (FI)—to empirically test the intervention of teenagers for their family's actual purchasing decision.

Backdrop of the study and conceptual framework

The massive adoption of smartphone and reasonably priced mobile data plans have positively contributed for building up the India's digital economy. The industries such as e-commerce, digital banking, healthcare, tourism have experienced the notable expansion in the recent years. The Indian Govt. is continuous focusing in creating awareness in the nation about digital paradigm. Hence, initiatives such as Unified Payment Interface (UPI), Pradhan Mantri Grameen Digital Saksharta Abhiyan (PMGDSA), and the Digital India program which have been proven crucial for making this nation an efficient player in the digital economy (*Transforming India: India's Digital Transformation*, 2023). Specifically, focusing on Haryana state, which has also shown positive indicators on the path of development. It has been found that the literacy rate of this state has reached to 77% in 2011 which was found 26% in the year 1971 (Press Trust of India & Business Standard, 2013). Further, NITI Aayog interpret that the Haryana has also succeeded in combating the poverty where poverty rate declined to 7.07 % in 2019-21 which used to be 11.88 % in 2015-16 (MillenniumPost, 2023). Moreover, there is continuous rise in the per capita income till 2020 since financial year 2012 (Statista, 2024).

This state has 326 thousand Indian rupees in financial year 2024 which used to be 106.09 in the year 2012 (Statista, 2024). Thus, observing these rising pattern of development author have selected five cities - Yamunanagar, Faridabad, Hisar, Bhiwani and Karnal of the same state for empirically testing the developed model. The transformation of these cities towards digital economy is giving thrust to marketers for understanding the buying patterns of teenage segment of this state. In the western setting, this segment is showing its great presence in family purchasing decision. Thus, it needs to be analyzed that whether the identified factors perceive the Indian teenagers similarly or not. Thus, this study is an attempt to provide meaningful insights about the purchasing patterns followed by the trendsetter age group (teenage). This would further help marketers for making their effective marketing strategy.

Theoretical Background

Understanding the consumer behaviour has always been an essential phenomenon for every marketer. This phenomenon is very complex to understand due to involvement of factors such as thoughts, emotions and actions etc. which indulge the customer for product selection and actual purchase decision (Dudziak et al., 2023). Few studies claimed that consumer behaviour is unpredictable in nature and depends upon many internal and external factors (Rowe and Clark, 1927; Kotler and Armstrong, 2018). Another study described that purchasing decision can't be the immediate task and contains the rigorous process of thinking, analysing the abundance alternatives, and many other factors while finalizing the product for final purchasing (Thakur and Kaur, 2020). There are few empirical researches such as Theory of

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Reasoned Action, Engel Kollet, Blackwell (EKB) model and Stimulus Response model are the theories discussed this phenomenon. The teenager also goes through with the buying decision process while taking purchasing decision. These theories/models have also been discussed briefly under this study.

According to Heller (2013), the theory of reasoned action is a branch of cognitive theory that provides a theoretical framework for understanding the human behavior. According to this theory, subjective norms, normative belief and attitude are vital determinants of intentions. The study conducted by Lee and Stoel, 2014 has also utilized the same theory for examining the mediating effect of perceived risk on the relationship between price discount and purchase intention. The rapid increase in discount simultaneously increases the risk perception pertaining to product quality and retailer's trustworthiness (Lee and Stoel, 2014). The study conducted by (Palalic et al., 2020) has further suggested new paradigm to the entrepreneurs through detailed analysis of increasing social media trends and its positive impact on consumer buying behavior. Additionally, it has also found that consumers pay more heed on the word of mouth while taking purchasing decision as that represents them more product credibility (Palalic et al., 2020). Even the positive impact of social media influencers (SMI) is not only restricted to the actual purchasing stage but rather on every stage of consumer buying behavior (Pop et al., 2022). Another study described that perceive informativeness and playfulness are the crucial factors of virtual reality (VR) feature and affect positively purchasing decision process (Kang et al., 2020). Furthermore, new category of augmented reality (AR) have been introduced named as Social AR, which provides opportunity to communicate, share and helps in increasing the boundary virtually of same physical environment (Hilken et al., 2020). For instance, Akzo nobel's visualizer decorating software, which provides opportunity to the users to see their freshly painted and redecorated walls just by moving their e-gadget such as tablet or smartphone around the room and even also allow other for their suggestions as well (akzonobel.com). Another study, identified the drawback of online shopping and claimed that it becomes very complex to physically and personally examine the product while purchasing (Mukhopadhyay and Setoputro, 2004; Thakur and Kaur, 2020). In consequences, return policy adapted by the online businesses has been proved as the competitive weapon that positively influences the company's sales (Mukhopadhyay and Setoputro, 2004).

Development of conceptual model and research hypothesis

Higher product knowledge

Product knowledge can be ascertained as the opinion of the customer regarding a particular product based on their prior use of it.(Pangemanan & Rumokoy, 2018). It summarizes the direct and indirect experience of the customer related to the product (Al Idrus et al., 2021). The product knowledge of the customer is the crucial aspect as contains the capability to change the opinion and the way of using the particular product (Salazar-Ordóñez et al., 2018). Higher product knowledge of the customer leads to superior memory, better recognition and effective analysis of the product (Pangemanan & Rumokoy, 2018). Turning towards the teenage segment which continuously spends their time on digital technology based product and services have been found more capable in acquiring product knowledge (Kaur and Medury, 2011). The increase in digitally enabled technology is providing abundance opportunity to the companies for their marketing communications. The study claimed that actual purchasing of the product depends upon the higher knowledge of the customer (Le et al., 2017). Another study states that actual purchasing decision taken by customer is the outcome of product knowledge and also this further matters that how the company is behaving towards their customers (S. Singh et al., 2020). The importance of teenage segment even in actual purchasing is continuously increasing due to increasing number of dual family income, more tech-savvy and busy schedule of parents. This has also

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been revealed that product selection made by this generation is also accepted by their parents and other family members as well. Thus, this generation is continuously increasing its importance in digital era and should not be considered as passive participants (Kaur and Medury, 2011).

H1: Higher product knowledge among teenagers leads to their strong intervention towards family's purchase decision.

Brand awareness

Brand is an essential factor which plays a prominent role in entire process of purchasing. This can be due to increasing usage of social media platforms by the individuals in their daily life. In consequences, this is further increasing the marketing potential of branded products. (Hutter et al., 2013). As depicted from various reports and trends, teenage segment has been found more connected towards digital marketing channel and understand the advertised product/ services more intensely in comparison to other family members. It is also claimed by the study that brand awareness can be built up through advertising, promotion, publicity of the product, etc. (Hutter et al., 2013). Thus, increasing engagement of this segment towards digital platforms makes easier for the companies to create awareness of their brand more effectively. Even the companies have started adapting the new innovative tactics for their digital product promotion such as rewarded ads, in-game advertisement, product placement etc. As the gaming application has been detected as most usage place among the teenagers. The report titled 'Daily Time Spent Gaming by Platform 2021' depicts that US teenagers spend average of 55 minutes on gaming applications in a day (Clement, 2023). Another study conducted by Novansa and Ali (2017) further claimed that brand awareness has positive impact on purchasing decisions. High brand awareness among the customer leads to high influence on purchasing decision (Novansa and Ali 2017). The purchasing decision of the teenagers is not only restricted to their own consumption but signs of purchasing interest can be observed for their family purchasing decision as well. This age group is categorized as the innovators and contains the good amount of caliber for judging the product/services quality in comparison to other age group. This may be reason of increasing acceptance by their parents for family purchasing decision.

H2: Higher brand awareness among teenagers leads to their strong intervention towards family's purchase decision.

Technology readiness

Technology has advanced rapidly in recent years, as evident by the use of mobile devices for everyday tasks and information systems for high business level commercial operations. According to the study, Web 2.0 tools facilitate the dissemination of helpful product information to consumers (Vasan, 2021). Individuals are often more adaptable to new technologies, but inverse relation has been found out between the age of people and technology adaptation rate (Apergis, 2019). Young individuals influence positively among each other for adapting the technological environment. These individuals have power to persuade their peers for adopting technological devices such as smartphones, tablets etc. (Apergis, 2019). As a result, increasing trends of technological acceptance can be observed among this generation. Specifically, focusing on the teenage segment, which has been continuously showing their immense presence in adapting to such a rapidly growing technological environment. Even in contrast to their parents, this segment is clearly acclimated to this environment far more swiftly, embracing social media and technology in large quantities (Lenhart, 2015). Moreover, their parents also concur with this assertion (Lenhart, 2015). Teenagers are regarded as early adopters and remains excited about the electronic gadgets. Early adopters are primarily impacted by new devices and exhibit a strong desire to embrace these cutting-edge technologies

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(Apergis, 2019). Another study identified technology readiness as one of the critical factor that influence the online shopping attitude and have positive strong relation with purchasing intention (Thakur and Kaur, 2019). Thus, showing these trends it can be stated that this segment is more adept for adjusting to this environment in comparison to other family members, and having a good say in family purchases. Hence, teenagers' more tech readiness ability intervene them for family purchasing decision.

H3: Higher technology readiness among teenagers leads to their strong intervention towards family's purchase decision.

Exposure to Social media

The trend of social media is increasing with the rapid pace. It has been revealed in 2023 that Facebook is the first most usage platform among the Indian users after Instagram. There are 516.92 million & 492.70 million users of Instagram and Facebook respectively (Wong, 2024). Observing the increasing trends, it can be stated that these social network platforms will remain dominant for many years to come. Even these digitally social networks also provide opportunity to many brands to get interacted with their fans also. These networks have been proved as the profitable income source for manufacture and an effective way for product selling. Even many brands have started adapting these platforms to entice their customers who have been recognized quite cheap, fast and effective in comparison to traditional marketing methods (Rafiq and Javeid, 2018). There are many other social media platforms growing rapidly such as Twitter, LinkedIn, and Pinterest among the Indian Population where the young population, specifically teens are continuously making the large portion of the same (Wong, 2024). The research conducted by Shamieh and Shehada 2020 claimed the significant positive relation of social media platform on purchasing decision in the context of youth generation. The social media platforms open up opportunity for the companies by engaging their customers through social media influencers (SMIs). The SMIs contain the capacity to build more trustworthy relationship with their followers in comparison to traditional celebrity (Schouten et al., 2020). According to the 2021 Global Web Index (GWI), 28% of individuals aged 16 to 23 years follow SMIs, which is a rather high percentage when compared to other age groups. Thus, authors could observe that this percentage decreases with the increase in age number. For example, only 23%, 16%, and 9% of those in the age group of 24–37 years, 38–56 years and 57–64 years respectively have been following SMIs. Therefore, more exposure of teenage segment towards these social media networks indulge them for family purchasing decision as they are considered as the trendsetter who contains the ability to influence the purchasing decision of the all age groups.

H4: High exposure to social media among teenagers leads to their strong intervention towards family's purchase decision.

Family interaction

Children in families pick up purchasing abilities from their parents and grab the spending knowledge of prioritized expenditure (Kaur and Medury, 2011). The parents further disseminate their purchasing & consumption knowledge in the family. Thus, it can be said that children are indirectly suffused with purchasing knowledge by their parents. Moreover, when these children cross to their teenage phase, they feel more comfortable and independent in purchasing because this is the phase where they practically implement their spending knowledge inculcated since their childhood. Thus, it can be stated that more interaction of teenagers with their family would indulge them in family purchasing decision. Interaction helps in creating awareness about the need and demand of any products or services among the family members. Therefore, it can be concluded that more interaction in family would enhance more presence of teenagers in family purchasing decision.

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H5: Increasing family interaction will lead to stronger intervention towards family's purchase decision

Teenagers' intervention and Family's actual purchase

In this technological era, teens are influenced by a wide range of factors as supported by various report and literature in above sub-sections. Even these factors are influencing them for family's actual purchasing decision also. Generally, the purchasing decision of the customer is categorized into three stages:

- Initial stage
- Information search and evaluation stage
- Final decision stage (Belch, Belch, and Ceresino 1985; Beatty and Talpade 1994; Shoham and Dalakas 2003; Singh and Singh 2014)

After the extensive literature review it has been observed that teenagers have been found active in first and second stage of consumer purchasing decision process (Beatty & Talpade, 1994; Belch et al., 1985). However, because of continuous shift toward modern trends, convenient online shopping, lack of time availability due to dual-earner family, conveniently availability of online product information are the critical aspects which are indulging this generation in actual purchasing decision for family also. The successful advancement in technology also serving the opportunity for the user to analyse the experience of previous customers of the same product (Chang et al., 2019; Liao et al., 2021). As with the help of technology it becomes possible for the users to share their positive and negative experience of the product which further helps to the new buyers while taking purchasing decision (Liao et al., 2021). Hence, it can be concluded that teenagers' intervention in family's actual purchasing decision is dependent on such factors discussed previously in sub-sections. Thus, with this foundation the conceptual model is framed in the next section presenting the five major factors which are indulging this generation for actual purchasing decision.

H6: Teenagers' intervention in family will have a positive effect on actual purchase decision.

Purpose of study

As discussed earlier, it is evident that teenagers have become an attractive market segment for online marketers and it has captured the attention of marketers worldwide through deeply intervening family purchase decision (Kaur & Medury, 2013). For instance, countries such as USA, Israel, Turkey have witnessed the tremendous contribution from teen segment in the markets across product ranges in the last one decades (Shoham and Dalakas 2003, Armagon 2013, Beatty and Talpade 1994, Sener, 2011, Baia 2021). Focusing teenage segment deeper (via effective marketing strategies) is a universal approach among the marketers in contemporary times. Currently, price discount is the main focus of every marketer using incorporating as a core strategy. It may provide positive results in short run but may not found enough to retain its customers for longer period of time (Kaur & Thakur 2021). In recommendations newer models such as consumer profiling, logistics, reverse logistics can be incorporated while formulating marketing strategy. However, despite the increasing role/influence of teenagers in family purchase decision, this segment has been academically unexplored especially in Northern states of India. Insights on teenagers' intervention in family's actual purchase decision can help marketers to develop the right stimulus for the formation of purchase decision in these segments. Hence, studies such as this one may provide meaningful insights. The primary purpose of this study is to empirically investigate the conceptual model derived from the earlier qualitative study (Nidhi et. al. 2025). The psychometric properties (reliability and construct validity) of the scale(s) used are assessed. Subsequently, the conceptual model is tested adopting the structural equation modelling

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(SEM). In the past few years, a large segment of management research has employed SEM as an analytical method for theory testing which concurrently integrates factor analysis and linear regression model (Arora and Aggarwal, 2018). Furthermore, this study has also used multi-group invariance analysis for assessing the structural invariance and measurement invariance.

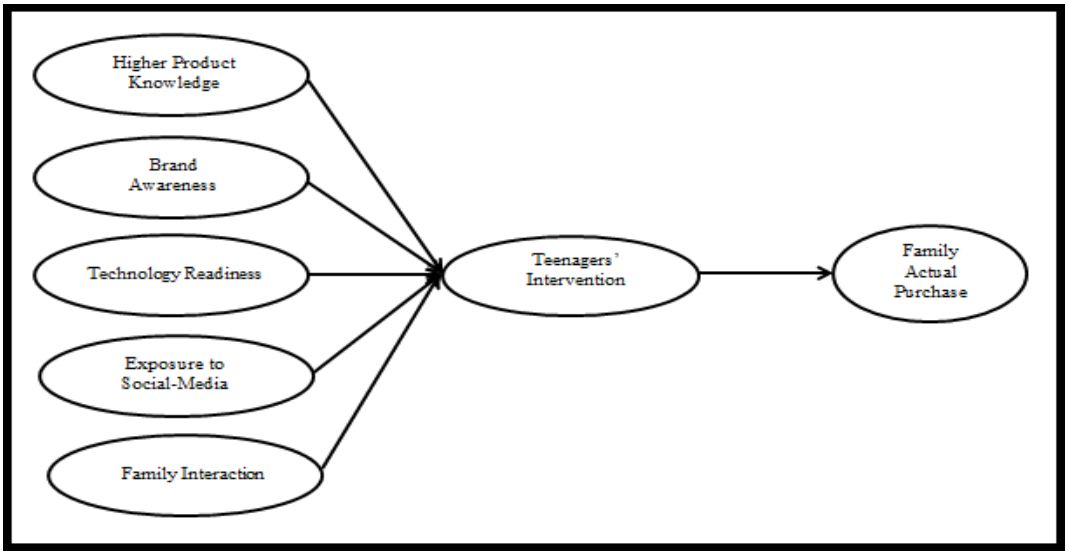


FIGURE 1: STRUCTURAL MODEL

In the use of self-report surveys – previous validated scales or self-developed scales – the ability to assess true differences between groups or change over time can be hindered by measurement error. When comparing groups researchers often assume that the instrument (e.g questionnaires) measures the same psychological constructs in all groups. Despite its appeal, this assumption is often not justified and needs to be tested (Milfont and Fischer, 2010). So, in addition to traditional tests of reliability and validity, we can perform tests of measurement invariance to answer – do different groups of respondents interpret a given measure in a conceptually similar manner? Psychological constructs such as used in this study –1, 2, 3, 4 and 5, – constitute latent variables that cannot be measured directly. Employing invariance analysis in a statistically rigorous manner helps us ensure that the comparisons we make represent true differences in our constructs of interest (Cheah et al., 2018). It enables the researchers to determine if different respondent segments provide the same interpretations to the scale items (Emerson et al., 2017; Wu et al., 2007). For instance, if we compare the teenagers' intervention or technology readiness between the five locations then measurement invariance will provide us the ground to compare them. Furthermore, it is pertinent to examine whether the same structural relationships hold between variables across two or more sub-populations (Mellenbergh, 1989; Meredith, 1993; Kaur et al., 2016). When variables under study are latent, the slopes of structural regression paths in multiple group analysis are examined for structural invariance. Thus, equivalence of psychological measures is important to address in order to compare latent constructs across groups. By comparing samples from five different cities (North Indian) of Haryana State, the findings of this study have the potential to deepen our understanding of determinants of teenagers' intervention for family purchase decision, which so far has been predominantly applied to single-sample studies.

METHODOLOGY

Date collection and sample profile

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The well-defined structured questionnaire was used for the data collection from teenagers. In the first section socio demographic data of the respondents such as name, class, location, gender, age, family income, family structured etc. have been incorporated. In order to fulfil the objectives of the study, the next section of the questionnaire involves the 40 statements related to 7 antecedents/ construct. At each location convenience sampling was used after Area sampling (Yamunanagar, Faridabad, Hisar, Bhiwani and Karnal) (Tandon et al., 2017; Kaur et al., 2016; Etikan, 2016; Hooda and Aggarwal, 2012; Jusoh and Ling, 2012). The field researcher conducted the on-site personally administered survey at five cities of state Haryana of the North India (Yamunanagar, Faridabad, Hisar, Bhiwani and Karnal). The field researcher briefly described the purpose of research and invited them for participation in survey. Before their participation in the survey, the field researcher has also taken the help of screening questions, ensuring that they are actually active in purchasing decisions. The purpose of these filtered questions was to reduce the biasness associated with teens' intervention, (caused by respondents rarely participate in family's purchasing decision) which would obfuscate the results. In consequences, the researcher succeeded in collecting the data from 120 respondents from each city (Yamunanagar, Faridabad, Hisar, Bhiwani and Karnal) of Haryana state from North India. The data collected from 600 respondents from Indian Northern cities were coded and analysed with Statistical Package for Social Science (SPSS) 20.0. The comprised data involves responses from 55.7 % male teenagers and 44.3 % were female. As per the report titled, "The teen years explained: A guide to healthy adolescent development" teenagers were further classified as pre-teen, early teen, mid teen, late teen, post teen in the age bracket 11-13 years, 13-15, 15-17 years, 17-19 years, 19-21 years respectively (McNeely et al., 2009). Under this study, pre-teen, early teen mid teen, late teen and post teen have been found approx. 11.7%, 25.3%, 28.5%, 20.7%, 13.8% respectively. Further 51% teenagers belong to nuclear family and rest belong to join family in the collected responses. Additionally, 53.2 % teenagers having dual income family and rest 46.8% are having single earning parent in family.

Measure

This study has incorporated seven constructs such as higher product knowledge (PK), brand awareness (BA), technology readiness (TR), exposure to social-media (SM), family interaction (FI), teenager's intervention (TI) and family actual purchase (AP). The first construct higher product knowledge (PK) contains five scale items adopted from previous literature (AL IDRUS et al., 2021; Salazar-Ordóñez et al., 2018). The second construct brand awareness (BA) contains seven scale items taken from previous literature (Pangemanan & Rumokoy, 2018; Slamet et al., 2022). The third construct technology readiness (TR) is further essential factor that needs to be essentially analysed as the trend of adopting technology is keep on increasing year by year in Indian segments (Thakur & Kaur, 2020). This latent variable (unobserved) contains six scale items adopted from previous literature(Mishra, Maheswarappa & Colby 2018; Kaur & Thakur 2019). The fourth observed variable is exposure to social-media (SM) contains five scale items (Alotaibi et al., 2019; Padhi, 2021). The fifth variable is the family interaction (FI) for which no suitable scale found in the past literature. Thus, measure for this is self-developed scale consisting five items. It is perceived that child indirectly grab the purchasing and consumption knowledge from the family and becomes efficient in purchasing decision when reaches to its teenage phase. Interaction of a child within family indirectly inculcates the skills related with the need recognition, searching and evaluation of alternative and actual purchasing decision. Another variable teenager's intervention (TI) is also measured through the self-developed scale consists the six items. Another latent variable family actual purchase (AP) also contains six scale items taken from the past studies (Baía 2021). These scale items were measured using five-point likert scale with 5 - strongly agree to 1-strongly disagree. The field researcher also conducted the pilot study on 100 teenagers located

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in Ambala division. By conducting the pilot study, the field researcher could ascertain the reliability and validity of designed structured questionnaire. This pilot study helped in identifying the minor errors in the designed structured instrument. The 100 teenagers were opted from the various schools, colleges and tuition academies located under Ambala division where the objectives of conducting this study discussed briefly. The main motive of pilot study initiatives is to restrict the biasness that might create complexities in analysis portion. Table 1 describes the detailed descriptions of the scale item taken under each construct with their mean and standard deviation.

TABLE 1
DESCRIPTIVE FOR SELECTED FIVE CITIES

	Yamunanagar		**Faridabad**		**Hisar**		**Bhiwani**		**Karnal**	
	(n = 120)		**(n = 120)**		**(n = 120)**		**(n = 120)**		**(n = 120)**	
Items	**Mean**	**Std. Deviation**	**Mean**	**Std. Deviation**	**Mean**	**Std. Deviation**	**Mean**	**Std. Deviation**	**Mean**	**Std. Deviation**
PK	3.23	1.092	3.69	0.98	3.62	0.87	3.58	0.83	3.52	0.71
PK1	3.39	1.023	3.54	0.88	3.63	0.89	3.86	0.8	3.89	0.65
PK2	3.63	0.916	3.6	0.75	3.78	0.75	3.83	0.74	3.83	0.67
PK3	2.7	1.05	2.79	0.92	2.86	0.77	2.51	0.86	2.46	0.69
PK4	2.89	1.136	3.05	0.94	2.88	0.89	2.74	1	2.64	0.73
PK5	3.13	1.012	3.07	0.81	3.08	0.94	2.93	0.91	2.98	0.76
BA	3.22	1.053	3.65	0.98	3.5	0.9	3.55	0.89	3.51	0.72
BA1	3.82	1.061	3.67	0.97	3.39	0.93	3.81	0.86	3.8	0.74
BA2	3.29	1.056	3.55	0.8	2.91	0.94	3.13	0.95	3.87	0.66
BA3	3.28	0.97	3.34	0.96	3.04	0.84	3.13	0.95	3.31	0.62
BA4	3.35	1.018	3.55	0.8	3.33	0.8	3.33	0.89	3.47	0.7
BA5	3.24	1.108	3.53	0.89	3.28	0.89	3.31	0.95	3.51	0.72
BA6	3.1	1.253	3.38	0.98	3.13	0.82	3.19	0.87	3.5	0.77
BA7	3.28	1.117	3.41	0.97	3.27	0.78	3.15	0.84	3.6	0.67
TR	3.75	0.952	3.72	0.88	3.68	0.85	3.62	0.81	3.53	0.68
TR1	3.11	1.222	3.42	1.02	3.4	0.88	3.53	0.76	3.59	0.68
TR2	3.78	0.954	3.77	0.89	3.61	0.89	3.53	0.95	3.71	0.75
TR3	3.51	1.11	3.23	1	3.26	0.95	3.09	0.86	3.36	0.67
TR4	3.91	0.953	3.41	0.78	3.17	0.82	3.27	0.79	3.38	0.61
TR5	3.76	0.944	3.81	0.88	3.68	0.86	3.75	0.75	3.73	0.72
TR6	3.5	1.077	3.71	0.81	3.68	0.75	3.7	0.78	3.91	2.85
SM	3.81	1.024	3.75	0.84	3.77	0.85	3.74	0.84	3.79	0.68
SM1	3.67	1.084	3.27	0.96	3.24	0.86	3.23	0.85	3.33	0.6
SM2	3.52	1.174	3.48	0.94	3.57	0.9	3.58	0.85	3.61	0.64
SM3	3.61	1.071	3.53	1.02	3.67	0.85	3.73	0.89	3.78	0.68
SM4	3.78	1.094	3.76	0.98	3.75	0.86	3.81	0.8	3.75	0.74
SM5	3.7	0.958	3.64	0.85	3.68	0.87	3.78	0.76	3.83	0.71
FI	3.2	1.12	3.6	0.95	3.49	0.92	3.5	0.81	3.47	0.77
FI1	3.57	1.09	3.64	0.93	3.68	0.84	3.71	0.74	3.66	0.69
FI2	3.31	1.282	3.25	0.92	3.48	0.91	3.61	0.82	3.67	0.81
FI3	3.15	1.281	3.28	0.99	3.48	0.89	3.48	0.83	3.41	0.66

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FI4	3.33	1.231	3.39	0.96	3.37	0.93	3.43	0.76	3.58	0.76
FI5	3.43	1.248	3.62	0.99	3.48	0.8	3.53	0.84	3.78	0.79
TI	3.74	0.914	3.68	0.93	3.62	0.86	3.74	0.81	3.9	0.73
TI1	3.65	1.01	3.59	0.92	3.58	0.82	3.88	0.71	4.15	2.75
TI2	3.9	0.956	3.79	0.94	3.57	0.87	3.91	0.77	3.93	0.71
TI3	3.84	0.996	3.87	0.86	3.69	0.86	3.93	0.74	3.96	0.7
TI4	3.59	0.921	3.52	1	3.38	0.86	3.53	0.91	3.68	0.79
TI5	3.99	0.804	3.83	0.91	3.69	0.8	3.92	0.8	3.93	0.74
TI6	3.61	0.714	3.58	0.94	3.47	1	3.39	0.91	3.78	0.86
AP	3.68	0.861	3.72	0.87	3.54	0.83	3.67	0.75	3.74	0.68
AP1	3.48	0.961	3.7	0.92	3.62	0.75	3.78	0.67	3.76	0.65
AP2	3.77	0.867	3.73	0.95	3.6	0.8	3.8	0.68	3.84	0.66
AP3	3.48	0.898	3.64	0.79	3.48	0.77	3.71	0.7	3.7	0.69
AP4	3.23	0.957	3.5	0.89	3.46	0.84	3.65	0.66	3.61	0.67
AP5	3.03	1.205	3.52	0.95	3.4	0.76	3.49	0.72	3.68	0.68
AP6	3.58	1.113	3.79	0.73	3.49	0.81	3.58	0.78	3.75	0.69

Model specification

The measurement model illustrated in Figure 2 serves as the basis for this study. Apart from seven latent variables, this study has also incorporated 40 observed variables as shown in Figure 2. The latent variable (unobserved) are depicted in ellipse and observed variables in rectangles shown in Figure 2. In correspondence to confirmatory factor analysis (CFA), the SEM technique also assesses the reliability and validity of latent variable in the beginning through the measurement model. Furthermore, Table 1 provides the description of codes specified on each item of the constructs with their mean scores along with their standard deviation.

Scale validation and invariance analysis

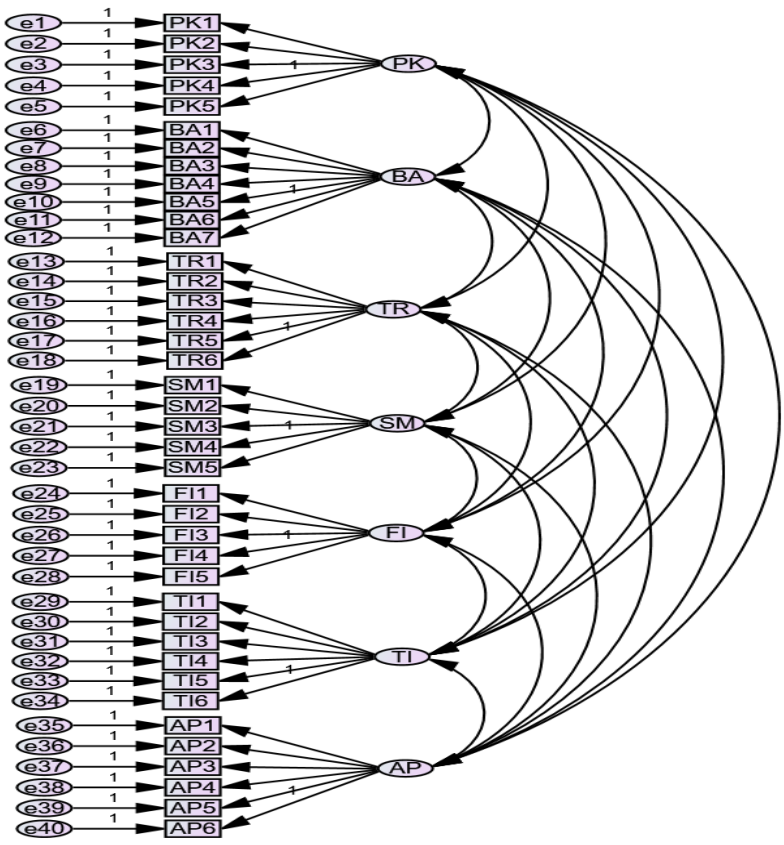
The researcher has used the SEM technique for analysing the collected data. Initially, the CFA was undertaken which is followed with multi-group analysis. A CFA is a process primarily derived on theory in which the factors of the scale are driven by a well-developed theoretical framework or previous empirical evidence stemming from exploratory and/or confirmatory analytical procedures (Dwiningrum, 2017). The CFA approach helps in assisting the reliability and validity of the designed research instrument. The scale reliability is measured by computing the composite reliability (CR) of each latent variable under the same technique. The composite reliability (CR) is required to be equal or more than 0.7 which indicates the internal consistency and sufficient convergence. The validity comprises with two components: Face validity and construct validity. The construct validity is further having two types' i.e convergent validity and discriminant validity. The face validity is the extent to examine the consistency of an item correspondence to the construct (latent variable). It is based completely on researcher's own personal judgment. Convergent validity, i.e. the extent to which indicators of a specific construct "converge" or share a high proportion of variance in common. In order to make assessment of convergent validity, the factor loading and average variance extracted (AVE) is examined where the standardized loading estimates and AVE must be equal or greater than 0.5.

Next, the discriminant validity is assessed in order to analyse to which extent the construct (unobserved variable) is distinct from other constructs. Further, assessing the discriminant validity, AVE values must be higher than the square of the correlation between that component

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and other factors. In the next section, the results of scale liability and construct validity are presented. Multi-group measurement invariance refers to "whether or not, under different conditions of observing and studying phenomena (e.g. countries, cultures, products, and industries), measurement operations yield measures of the same attribute" (Horn and McArdle, 1992, p. 117). Thus, the fundamental concept of underlying measurement invariance is that the measured relationship between observed and unobserved variable are completely identical across groups or that the psychometric characteristics of data from multiple group indicated the same pattern/structure and coherence (Ballester, 2004; Kaur et al., 2016). The following points correspondence to multi-group measurement invariance have been summarized after analyzing the previous studies (Carmines and McIver, 1981; Teo et al., 2009; Hair et al., 2010; Chen et al.,2017).

- Configural invariance, as defined in the literature, refers to the notion that a measure's factor structure, including the number of factors and the pattern of factor loadings, remains consistent across different groups or conditions (Scholz et al., 2002; Martin et al., 2012).
- The metric invariance is the stage which assures that different groups respond to the items in the same pattern so that comparison of rating which is collected from different groups can be done in meaningful manner. It is required to constrain the factor pattern coefficient (loading) to be equal across group while conducting the metric invariance test. As the factor patter coefficient (loading) describes the information pertaining to relationship between observed score and latent score. Thus, this test enables the researchers to assess the significant association between constructs from one group to another.
- Scalar invariance exists when the intercept terms for each measured variable are invariant between groups being studied. As such, scalar invariance is tested by constraining the intercepts of items to be the same across groups.



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FIGURE 2: MEASUREMENT MODEL FOR TEENAGER'S INTERVENTION IN FAMILY PURCHASING DECISION

Note: Description of Codes Used in This Figure is presented in Table 1.

FINDINGS

Construct reliability and validity

The responses collected from targeted population are coded in SPSS 20.0 and run using the Amos 20.0. Examining the reliability and validity of the constructs derived from the pooled data was the initial step in analysis phase. By computing the composite reliability (CR) the reliability of developed scale was assessed. The findings related to the same are shown in the Table 2. The scale is considered dependable or reliable as the CR of each construct is above the threshold values 0.7.

TABLE 2
RELIABILITY AND VALIDITY MEASURES FOR KEY CONSTRUCT

Items' code	Items' description	Factor Loading	Composite Reliability
PK	**Product Knowledge**		**0.85**
PK1	I watch T.V advertisement for acquiring product knowledge	0.678	
PK2	I really pay attention to pop-up advertisement displayed while watching online content to acquire product knowledge.	0.698	
PK3	I follow the social media influencers for acquiring product knowledge.	0.734	
PK4	I am having smartphone which helps in enhancing product knowledge.	0.722	
PK5	I am the one in my family who gets the sufficient time in accessing product knowledge from various online/offline alternatives.	0.798	
BA	**Brand Awareness**		**0.88**
BA1	I am the one in my family who is more enthusiastic in searching various alternatives for shopping.	0.734	
BA2	I am the first one who knows the new brands enter into the market.	0.694	
BA3	Availability of various social media websites helps me to get aware about the brands.	0.734	
BA4	Time spent with peers who remain updated with new brands helps me in creating awareness about brands.	0.725	
BA5	I actually notice the brands carried by film celebrities in their interviews/award functions that helps me in creating brand awareness.	0.734	
BA6	I actually pay attention on the brands placed with in my video games while playing that really helps me in creating brand awareness	0.711	
BA7	I like rewarded advertisement while playing video games in which I avail the rewards for watching the complete advertisement and simultaneously it creates brand awareness.	0.696	
TR	**Technology Readiness**		**0.87**
TR1	I am the first one in my family who use & learn technology when it appears in the market.	0.76	
TR2	I feel optimistic about new technology and a belief that it offers me an increased control, flexibility and efficiency in my life.	0.76	
TR3	Sometimes I think that technology systems are not designed for the ordinary people.	0.671	
TR4	I feel myself more active in technology because of having efficient techno-environment due to peers.	0.777	

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TR5	I am more comfortable and capable in accessing electronic gadget in my family.	0.620	
TR6	I can use any technological product without any help and assistance.	0.746	
SM	**Exposure to Social Media**		**0.84**
SM1	I am having presence on social media applications.	0.765	
SM2	Availability of low cost smart phones is creating more exposures towards social-media.	0.699	
SM3	Declining 4G/5G service charges is really enhancing my exposure towards social-media.	0.681	
SM4	I insist for buying product which is endorsed by my favourite influencers.	0.701	
SM5	I really find social media influencers as most similar and trustworthy in product promotion.	0.76	
FI	**Family Interaction**		**0.84**
FI1	I think my spending habits are somewhat like my parents.	0.655	
FI2	Spending more time with family helps me to recognize the need & requirement of the product in family.	0.735	
FI3	Spending more time with family develops trust and bond in the context of household shopping	0.775	
FI4	The product suggested by me actually admired by my parents.	0.762	
FI5	My family members actually consider me un-ignorant for the household shopping.	0.642	
TI	**Teenagers' Intervention**		**0.86**
TI1	I feel myself involved in purchasing due to having abundant market exposure.	0.722	
TI2	I feel myself involved in purchasing decision due to expertise in internet related activity.	0.783	
TI3	I feel myself involved in purchasing decision due to all time availability on social media.	0.78	
TI4	I feel myself involved in purchasing decision due to having good understandability in comparing the brands.	0.65	
TI5	I feel myself involved in purchasing decision due to having great enthusiasm towards shopping.	0.67	
TI6	I feel myself involved in purchasing decision due to having greater ability of identifying the need and requirement of the product.	0.68	
AP	**Family Actual purchase**		**0.86**
AP1	Knowledge about latest trends indulges me for family actual purchasing.	0.762	
AP2	Busy schedule of my parents indulges me for family's actual purchasing.	0.723	
AP3	More understandability towards innovative advertisements indulges for family's actual purchasing.	0.734	
AP4	Emotional attachment with family indulges me for family actual purchasing.	0.69	
AP5	Online reviews by social media influencers indulge me for family actual purchasing.	0.68	
AP6	I take myself responsible for the final actual purchasing of my family.	0.69	

In the next phase, the validity results are addressed. According to Fernandes (2017), face validity is the appearance of a measure being valid, or that it accurately reflects the concept. The face validity of self-developed scale like family interaction and teenager's intervention was assessed with five-member panel under which three were educator having expertise in marketing domain and two were business development manager from reputed industries). In the next step, convergent validity is assessed for that factor loading and average variance extracted (AVE) is computed. The convergent validity of the scale is assessed by

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factor loadings, which represents that all the scale items range beyond the threshold value of 0.5 and strongly load on their respective latent construct (Cheah et al., 2018; Evangelista and Dioko, 2011). By assessing the measure results from AVE, CR and factor loading simultaneously represents that there is sufficient convergent validity. Further, discriminant validity which is measured by AVE> squared inter construct correlation (Fornell and Larcker, 1981). Overall, across a range of indicators, the scale demonstrates adequate psychometric properties

TABLE 3
AVERAGE VARIANCE EXTRACTED AND SQUARED CORRELATION (CONVERGENT AND DISCRIMINANT VALIDITY)

Variables	1	2	3	4	5	6	7
Higher Product Knowledge	**0.528**						
Brand Awareness	0.214	**0.516**					
Technology Readiness	0.432	0.414	**0.525**				
Exposure to Social Media	0.342	0.208	0.385	**0.521**			
Family Interaction	0.084	0.409	0.294	0.154	**0.512**		
Teenager's Intervention	0.429	0.380	0.454	0.445	0.190	**0.512**	
Family Actual Purchase	0.357	0.369	0.390	0.398	0.288	0.351	**0.509**

TABLE 4
MODEL FIT INDICES

Goodness-of-fit indicator	χ2/df	CFI	TLI	NFI	RMSEA
Threshold values	**(⩽5)**	**> 0.90 good;> 080 permissible**	**> 0.80 acceptable**	**> 0.80 acceptable**	**< 0.06 acceptable**
Model 1: Pooled data	2.677	0.837	0.819	0.776	0.052
Model 2: Pooled data error terms of items covaried	2.464	0.852	0.837	0.790	0.049
Model 3: pooled data (SM3 and FI5 removed)	2.187	0.896	0.887	0.810	0.044

In next stage, the collected data was assessed to analyse the extent to which empirical data matches with the theorized model descripted in Figure 2. The GOF indicators shown in Table 4 describe the acceptable value of measurement model. Each GOF indicator has its own range for model acceptability as CFI, TLI, NFI should be greater than 0.80. Another GOF indicator such as RMSEA, χ2/df requires the values less than 0.06 and 5 respectively for a better model fit. As in Table 4, Model 1 the values are quite acceptable and meeting the threshold criteria except NFI. Thus, there is need to improvise the NFI. The recourse to improving the model fit lies in examination of modification indices. It is claimed by the study Schreiber et al., 2006 that in order to make the model more parsimonious or for a better fit model modification can be initiated. Modification indices offer suggested remedies to discrepancies between the proposed and estimated model. Under this analysis, researchers have adopted the co-vary error terms that belong to the same construct having the largest modification indices (MI). It is claimed that co-vary the error terms having largest MI belongs to the same construct is the most appropriate modification (Byrne, 2001). The acceptable item on whose error terms the co-variances can be established can be detected by reviewing the modification indices table. The co-vary items having MI greater than 30 were PK1 (I watch T.V advertisement for acquiring product knowledge), PK2 (I

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really pay attention to pop-up advertisement displayed while watching online content to acquire product knowledge);PK3 (I follow the social media influencers for acquiring product knowledge), PK4 (I am having smartphone which helps in enhancing product knowledge); SM4 I insist for buying product which is endorsed by my favorite influencers, SM5 (I really find social media Influencers as most similar and trustworthy in product promotion); TI2 (I feel myself involved in purchasing decision due to expertise in internet related activity), TI3 (I feel myself involved in purchasing decision due to all time availability on social media); AP5 (Online reviews by social media influencers indulge me for family actual purchasing.) AP6 (I take myself responsible for the final actual purchasing of my family). This co-vary of error terms technique showed quite improvement in all GOF indicators. As shown in Table IV, the values of CFI, TLI has improved but NFI is still on its threshold value i.e. 0.790. The value of RMSEA was already better i.e. 0.52 but after modification more improvement in value has been found i.e. 0.049. Although, designed measurement model is deemed valid at this stage and MacCallum et al. (1992) also suggested that "when an initial model fits well, it is probably unwise to modify it to achieve even better fit because modifications may simply be fitting small idiosyncratic characteristics of the sample" Still, in order get better fit multi-group analysis has been incorporated in the next stage. The values more than 2 have been identified in standardized residual covariance table (Bhatia and Awasthi, 2018). Thus, in the next phase, the items SM3 and FI5 was identified which had large modification indices with items of other latent variable. In consequences, a noticeable improvement in each GOF indices can be seen and model easily meets all threshold values.

Multi-group analysis

Measurement invariance

For achieving the better model fit different multi-group analyses have been performed by using Amos 20.0. Under multi-group analysis, the measurement test such as configural invariance, metric invariance and scalar invariance have been performed separately. The measurement invariance test was initiated using hierarchy ordering of nested models: configural invariance, metric invariance and scalar invariance using GOF (Teo et al., 2009).

Under multi-group analysis, the first stage is to determine the unconstrained or baseline model which is already determined in Table IV i.e. Model 2: Pooled data error terms of items covaried. Using collected data, configural model tests the hypothesized relationships established in figure 2 among the constructs across five northern cities. This configural model which is also evaluated through the GOF indicators just like unconstrained or baseline model. The GOF indicators depict that whether the model is good representation of the hypothesized relationships across five location or not (Chen et al., 2017; De Giovanni and Esposito Vinzi, 2014). The acceptance criteria which earlier used was again incorporated where each GOF indices has its own threshold value and produced indices are shown in Table V should also meet the criteria for a better model fit. Table V depicts that configural invariance is attained where all the value of GOF indicators are in acceptable range such as $\chi 2$/df 1.775, CFI 0.846 and RMSEA0.031. Thus, it can be stated that pattern used in research model for fixed and non-fixed parameter is completely identical for samples (Yamunanagar, Faridabad, Hisar, Bhiwani and Karnal) as configural invariance has been attained.

TABLE 5
MEASUREMENT INVARIANCE MODEL

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	χ2/df	CFI	TLI	NFI	RMSEA
Configural model (unconstrained)	1.775	0.846	0.802	0.746	0.031
Nested model comparisons (assuming model unconstrained to be correct)					
	df	**CMIN**		**p**	
Full metric invariance (measurement weights)	75	186.35		0	
Partial metric invariance					
PK (invariant)	13	19.789		0.093	
BA (all items variant)	13	35.79		0.001	
[a]TR (TR1, TR2 and TR6 variant)	13	33.848		0.001	
[a]SM (SM1 variant)	7	22.621		0.001	
[a]FI (FI2 and FI4 variant)	9	37.464		0.001	
TI (invariant)	13	24.450		0.053	
AP (invariant)	11	13.569		0.316	
Full scalar variance (measurement intercepts)	149	464.303		0	
Partial scalar invariance					
[a]PK scalar (PK1,PK2, PK5 invariant)	13	99.93		0	
[a]BA (BA1, BA2 invariant)	13	31.425		0.002	
[a]TR (TR3,TR4 invariant)	13	27.755		0.006	
[a]SM (SM3, SM4 invariant)	7	9.407		0.151	
[a]FI (all items invariant)	9	24.018		0.002	
[a]TI (TI3, TI5 invariant)	13	30.014		0.003	
[a]AP scalar (AP2, AP6 invariant)	13	49.589		0	
Note: a Model results of fully constrained (all items) are presented					

In the next step, metric variance is performed where equality of factor pattern coefficient is required. It is consequently assumed that this model would be invariant for the support of full metric invariance, as evidenced by the non-significant $\chi 2$ change, when compared to the unconstrained and configural model. Produced values are shown in Table 5 for the model comparison. It can be stated that the results shown in Table 5 are not in the support of attaining full metric invariance. Thus, another phenomenon introduced by Byrne et al. (1989) of partial measurement invariance, wherein just a portion of a model's parameters are required to be fixed across groups, while another portion of the parameters are permitted to change across groups (Teo et al., 2009; Gallant & Martins, 2018). Hence, partial metric invariance is supported by further analysis. This is accomplished by restricting the various models one after the other

By restricting pieces of each construct in several models, this is accomplished by testing various models one after the other. The results reveal that the items of the factors higher product knowledge (PK), teenager's intervention (TI) and family actual purchase (AP) are completely invariant across groups. On the other side, some items of the construct TR (technology readiness), SM (exposure to social media), FI (family interaction) were found variant across different five locations. The TR1 (I am the first one in my family who use & learn technology when it appears in the market, TR2 (I feel optimistic about new technology and a belief that it offers me an increased control, flexibility and efficiency in my life), TR6 (I can use any technological product without any help and assistance) are variant under the TR construct. Further, SM1 (I am having presence on social media applications) are also found variant under the SM construct. Last, FI construct also contains

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two variant items which are FI2 (Spending more time with family helps me to recognize the need & requirement of the product in family) and FI4 (The product suggested by me actually admired by my parents) across five locations in Northern of India.

In the next stage, analyst has approached scalar invariance which is further tested by constraining the intercepts of 40 indicators to be equal across the five locations. Just like the metric invariance testing scenario, again results could not support the full scalar invariance. Thus, partial scalar invariance was incorporated under the study. Furthermore, it is required that there should be at least two invariant item under one construct for the partial invariance. As shown in Table 5, all the constructs have met the criteria except FI (Family Interaction). Taking the similar procedure for metric variance each factor is examined for identification of variant and invariant items. Although the models demonstrated significant difference from the configural model, some items as indicated in table were found to be invariant. By taking the results of configural, metric and scalar invariance together, good support for the measurement model can be observed. Hence, at this stage recommendation by MacCallum et al. (1992) has been followed and researcher did not attempt any further re-specification.

Structural invariance

The examination of hypotheses (H1- H6) and invariance of the relationships among construct across five Indian northern cities were found with the evidence from verified measurement invariance. The structure model as shown in Figure 1 is also assessed for the pooled data in a manner akin to the measurement invariance. The produced values are shown in Table 6. Every path is deemed significant, with the exception of FI (Family Interaction). As model fit indices such as TLI, CFI, NFI, RMSEA are found outside from the acceptable range, thus structural model has to be re-specified by removing the construct FI (family interaction needs to be removed). In consequences, the GOF indices fall in the acceptable range. The determinants of teenagers' intervention have significant support as evidenced by squared multiple correlation value of 0.823. The predictive ability of teenagers' intervention (TI) for family actual purchase (AP) is measured at 0.346, giving a strong foundation to the structural model. Thus, it can be concluded that, at this level, this study has found the significance from all the hypotheses (H1 to H6) except H5. Subsequently, the invariance of five structural paths shown in the Figure 1 was analysed. For simultaneous invariance testing of all the paths depicting in structural model, the researcher compared the unconstrained structural model is with the fully constrained model. Under the unconstrained structural model, all the path parameters are permitted to vary across samples. On the other side, fully constrained model restricts the path parameter to be invariant across five locations. A substantial difference in the $\chi 2$ test resulted in the rejection of an invariant pattern of causal paths. This gives a clear indication regarding rejection of a path whose coefficient has not been found similar across the five groups. Thus, researchers separately performed a number of invariance test for each path as shown in Table VII. It can be stated that paths PK → TI (product knowledge → teenagers' intervention); BA → TI (brand awareness → teenagers' intervention); SM → TI (exposure to social media → teenagers' intervention); TI → AP (teenagers' intervention → family actual purchase) have been found invariant. On the contrary, TR → TI (technology readiness → teenagers' intervention); FI → TI (family interaction → teenagers' intervention) are variant. Thus, it is therefore stated that partial structural invariance is attained at this stage.

TABLE 6
PATH ANALYSIS

Citation Information: Nidhi., Thakur, P., Ayushi.B., Sai Teja, K. N., Naga Lakshmi. V, (2026). Determinants of teenagers' intervention in family purchase decision: a sem approach. *Academy of Marketing Studies Journal, 30*(S5), 1-28.

Estimates	Standardized path coefficients	SE	CR	p
PK → TI (H1)	0.424	0.055	3.754	***
BA → TI (H2)	0.210	0.075	3.621	***
TR → TI (H3)	0.487	0.063	7.512	***
SM → TI (H4)	0.725	0.275	6.128	***
FI → TI (H5)	0.188	0.047	4.145	***
TI → AP (H6)	0.538	0.07	6.285	***

Note: Squared multiple correlations: Teenagers' intervention (0.823) and Family Actual Purchase (0.346).

TABLE 7
STRUCTURAL INVARIANCE MODEL

	χ2/df	**CFI**	**TLI**	**NFI**	**RMSEA**
Pooled data	2.986	0.824	0.867	0.872	0.045
Unconstrained	2.821	0.836	0.884	0.901	0.042
Nested model comparisons (assuming model unconstrained to be correct)					
	DF	**CMIN**	**p**		
Fully constraint model	64	127.203	0		
Path PK → TI constrained	2	2.464	0.248		
Path BA → TI constrained	2	0.758	0.685		
Path TR → TI constrained	2	2.413	0.269		
Path SM→ TI constrained	2	2.923	0.232		
Path FI → TI constrained	2	2.788	0.248		
Path TI → AP constrained	2	2.874	0.244		

SUMMARY OF FINDINGS

The study found that product knowledge, brand awareness, technology readiness, exposure to social media, financial interaction act as the determinants of teenagers' intervention for family purchasing decision. The study further found the positive relationship between teenagers' intervention and family purchasing decision among the selected five cities of Haryana. The determinant exposure towards social media is emerged as the strongest predictor affecting the teenagers' intervention positively in family purchasing decision among all the determinants. This social media exposure has also attained the structural invariance across all the five locations. The results of this study are in consonance with the study (Alghamdi & Bogari, 2019) conducted on youngsters of Saudi Arabia that social media have positive influence on purchasing decision.

Similarly, the technology readiness has also been found strong determinants affecting the intervention of teen segment positively for family actual purchasing. Although this factor has attained partially metric and scalar invariance across the five locations which suggest that cautious must be taken into consideration while comparing the score of one location with another. As there is positive relationship between teenagers' intervention and family purchasing decision and thus it can be stated that technology-readiness is positively influencing teenagers' intervention in family purchasing decision. This generation is influenced by their peer towards the updated technologies which further helps them in building up their connections (Apergis, 2019). The factor product knowledge is also found reliable and valid which has been found fully metric invariant and partially scalar invariance across the selected five locations. On the other side, this determinant has attained full structural invariant. The results are in consonance with the study conducted on SMEs that product knowledge leads to

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the higher customer satisfaction (AL IDRUS et al., 2021). On the contrary, study conducted on Portugal teen segment resulted that higher product knowledge of this segment has no positive relation with their family purchasing decision (João & Baía, 2021). The determinant brand awareness has attained complete metric variance and partial scalar invariance across the five locations. Although, this factor is found fully structural invariant across five locations which signifies that this construct is positively affecting intervention of teen segment for family purchasing decision. The study conducted on Indonesia teen-segment has also shown the significant results between brand awareness and purchasing decision (Sahputra & Kuala, 2020). Brand awareness is further having the significant results with purchasing intention in the context of skin care product as per the study conducted on university students of Malaysia (Lee et al., 2019).The last determinant family interaction is found partially metric invariance and fully scalar invariance across the five locations. Although this construct has been found fully structural invariant across different five locations. Thus, it can be stated that this determinant is affecting positively the teen-segment for family purchasing decision across all the locations. The construct teenagers' intervention causes a 34.6 % variation in the construct family actual purchasing. Hence, it can be stated that teenagers' intervention is quite prominent for family actual purchasing which has also been found completely structural invariant.

DISCUSSION AND CONCLUSION

Academic implication

It is commonly known that measurement biases can provide unreliable results from any data collected using psychological constructs. This may particularly true for self-reported measures. Thus, it is essential to consider while data is collected from two or more groups and comparison is also drawn (Morgado et al., 2018). Thus, the multi-group invariance analysis has been successfully and effectively applied and illustrated in this study to conquer such problem. Although previous studies conducted in European and Western culture and in the Indian context (metro cities) have found the determinants of purchasing decisions, none of the studies incorporated multi-group invariance analysis. The data collected from five different locations was tested through measurement invariance and structural invariance where the findings have enhanced our understanding regarding relative effectiveness of determinants (higher product knowledge, brand awareness, technology readiness, exposure to social media and family interaction towards actual purchasing decision). The results drawn under this study recommends that each of the latent construct has psychometric validity and might be applied for making comparison among the data collected from different five locations.

Additionally, unlike the majority of previous studies, this study is beyond the TAM that has investigated the purchasing determinants from a fresh perspective. Factors such as tech readiness, exposure to social media have empirically validated as determinants which are intervening teenagers for family actual purchasing. Further, the measures developed for latent constructs – technology readiness (TR), exposure to social media (SM) and family interaction (FI) have been found psychometrically validity across different five locations. This study would definitely benefit to the future studies.

Managerial implication

This study has investigated the determinants of teenager's intervention in family purchasing decision in Indian northern cities of state Haryana. The findings of this study have provided meaningful insights to various marketers/ practitioners for formulating their marketing strategy. The insights derived from this study would help in achieving their marketing objectives as the study has incorporated empirical verification of determinants concerned with intervention of teenagers in family purchasing decision. It has been found that

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teenagers are not only restricted up to first (need recognition) or second stage (Information search and Evaluation of alternatives) but their presence has been found in the actual purchasing decision also (Kaur & Medury, 2014). In Indian context, highest internet users are found in between the age group of 12 – 34 which have been found 65% of the total market in the year between 2013 – 19 (Statista, 2025). Under this figure, people lying in the age group of 12 - 17 years & 18 – 34 years have been found 34 % & 31 % respectively (Statista, 2025). Arif, Aslam & Ali, 2016 has found that teen segment is more dependent on smartphones which satisfy their social needs and even quite convenient to use which further influence them for purchasing decisions. In the US Context, a survey revealed that teens actually have some degree of influence in various product categories such as apparel, fast-food restaurant, personal care products, in-home entertainment content and also the vehicle purchasing for family as the teenagers have been found 96%, 95%, 93%, 78 % and 45 % respectively (Cristina, 2015). Furthermore, in UK context also, the growing trends of teenagers' influential role over their parents have been observed since from the past 12 months in each product category (The Drum, 2023). Even marketers are continuously grabbing this successive opportunity to penetrate into such families by engaging their younger audience. UK teenagers are continuously active on various media platforms, where Netflix stood at the topmost position, followed by Amazon Prime Video (The Drum, 2023). In the Indian domain also this has been revealed in the report titled, "Patterns of Internet Usage among Youths in India" that 85% non-adult have access to cellphone where out of them 80 % admitted their presence on social media and spends five hours in a day (Bohra, 2020). Thus, statistics are giving the clear indication that how intensely teenagers are adapting such technological environment. Moreover, overlooking this in-depth study, especially given the growing influence of this age group on family purchasing decisions, would mean missing out on valuable marketing opportunities. This study has identified and empirically tested the determinants of teenagers' intervention in family purchasing decision among the Indian teenagers located in northern cities of state Haryana.

The first determinant is the higher product knowledge (PK) where the teenagers have been found more capable in grabbing the product information through technology-based services and actively make the other family members aware about the consumption knowledge within the household (Kaur & Medury, 2011). Product information can be acquired through online (company website, consumer feedback) or offline mode (peer group, word of mouth) as well. Marketers are suggested to make their customer satisfied whether approached through offline or online. It is not only the online customers who can share their feedback through online portal but teenagers are actually considering their peer-group discussions as well. Further, it is recommended to the marketer also to monitor their uploaded online content very cautiously as this spreads rapidly and changes the people perception very quickly. For instance, Spotify adopted email marketing strategy for marketing communications with their customer in personalized manner that builds up positive perception as well. Further, this company is also having awareness regarding online web content and regular updates that makes in building up the close relationship with users. Thus, this company remains always appealing to its users and staying ahead of trends in the IT and music industry (Mutua, 2024). These active strategies helped this company to become one of the largest music streaming service provider having 675 million monthly active users and 263 million paid subscribers approximately in 2024. Staying actively engaged with social media content and personalized e-mail marketing communication develops a sense of being heard from customer's perspective and thus fosters the strong positive connection with its consumer. Additionally, this study found one of the main factors intervening teenagers in family purchasing decision is the awareness towards branded products. The survey conducted on 2000 teenagers residing in Indian metro cities revealed that this age group is quite conscious towards the branded product and actually spends Rs. 4,000 – Rs. 5,000 in a month for buying branded products (Press Trust of India & Business Standard, 2013).

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There is limited offline availability for several well-known brands, like Gucci, MAC, and countless more. Customers frequently use online choices to make purchases after making an assessment (either factually or conceptually) on the availability or lack thereof of a brand in their locality. In order to promote the Myntra brand and raise awareness of the convenience of online branded products, Myntra, a well-known fashion portal in India, used print advertisements and outdoor media such as hoardings, malls, and AC buses in a number of Tier 2 cities in 2015 (Chauhan, 2015; Das & Ara, 2015). Further, this marketplace has not only found productive for luxury brands but targeting the local brands aimed to expand its business for targeting Indian small towns and cities (Gooptu, 2014). Additionally, logistics and delivery speed might be the key to e-commerce businesses' success in attracting new small-town consumers. Further, these e-marketplaces such as Amazon, Flipkart, Nykaa, Myntra are partnering with the many brands that creating their brand awareness into the mind of the consumer. For instance, Skincare brand XYST, partnered with the Myntra for creating its brand awareness among the consumers and also to achieve the target of generating revenue Rs. 100 crores till 2027 (Images Bof, 2024). Further, companies are suggested to create awareness by opting strategies such as in-game advertisement, pop-up ads and product placement etc. As the survey conducted in US depicts that the teens belongs to the age group of 13-18 years old spend 55 minutes on an average daily basis (Statista, 2023). With the changing pattern companies needs to collaborate with the gaming application as this age group devote their maximum time on gaming application. Hence, apart from e-marketplace marketers may opt these gaming platforms for influencing this generation creating their brand awareness. For instance, McDonald's and Coca cola used promotional strategy through video game Doom 3(Xbox) for influencing their users (mycustomer.com). Likewise, FIFA video games which are quite popular among the young generation are also targeted by the companies Adidas and Master Card used in-game advertisement strategy for creating their brand awareness among users (St-Denis, 2020). Moreover, Corporation in order to create more awareness among people may also introduce their specific video game such as PepsiCo launched its action video game application named Pepsiman in the year 1999 (www.esports.net). Under this video game, the Pepsiman is assigned with the duty to save the life of the people dying due to dehydration by serving them Pepsi can and would also gain extra point through collection of Pepsi cans. Another determinant which intervene the teenagers' in family purchasing decision is the tech-readiness. Adaptability towards new technology is growing rapidly among the individual but the pace of adaptability is declining with the growing age (Apergis, 2019). It is further admired by the US parents that their teenage children are quite efficient in adapting the changing tech-environment and extensively using technological devices (Lenhart, 2015). As the enthusiasm is found at saturation level, due to this generation is categorized as an early adopter (Apergis, 2019). These technological devices further make marketing communication more effective and convenient for the companies and consumers as well. Thus, it is suggested to the companies which are in a plan of shifting their marketing communication from traditional campaigns to digital platforms, should provide user friendly design and interfaces that may break down (consumer) constraints and help them become accustomed to new technologies. The longer a potential user stays on the website, the more likely they are to explore and learn about its features and marketing opportunities. The fourth determinant is exposure to social media where 28% people from the age group 16–23 years actually follow the social media influencer as per global web index (GWI), 2021 which is quite high in comparison to other age. Even with the increase in age group this percentage declines such as people lying in the age group of 24–37, 38–56, 57–64 years have been following only 23%, 16% and 9% respectively. The product information adopted through social media influencer simultaneously reduces the perceived risk attached with the product as their purchasing is based on their admiration and belief (Djafarova & Rushworth, 2017; Alotaibi et al., 2019). It is recommended to the companies to collaborate

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with the social media influencer and also incorporate user-generated content that reflects more credibility of a brand. This may further help in targeting the wider audience in shorter period of time. For instance, Sephora the beauty industry founded in the year 1969 has been a major force in the beauty business, serving as a one-stop shop for cosmetics, skincare, haircare, and fragrance. The company has more than 2,600 stores in more than 30 countries and a huge consumer base. It has been found that adoption of digital marketing strategy by Sephora affected positively in online sales which has increased from $580 million to $3 billion during the year 2016 to 2022 (Statista, 2025b). Another brand Colgate also started its campaign, "Kya apke toothpaste me namak hai" that has been proved quite effective and became iconic across India in early 2010. This campaign raised awareness of the idea of salt in toothpaste, which improvised the Colgate's brand recognition and helped them targeting largest market share. Despite of growing market share this campaign still failed in providing two-way communication which is the core demand of today's customer. In July 2024, this brand has been found more enthusiastic towards social media campaign with having 99.1k Instagram followers and collaborated with various beauty influencers, fashion influencers and food influencers. For instance, in collaboration with fashion influencer Manav Chabbra, the colgate incorporation transformed this with "Colgate Visible White" which is positioned as a travel essential which every individual must have during traveling, smartly influencing their customer for adding into their own travel kit (Samadji, 2024). Thus, marketers are suggested to utilize today's information technologies, such as web crawling, sentiment analysis, big data analytics, search engine marketing, and/or search engine optimization, that provides much-needed consumer profile and market intelligence that would also help identify the connection between the antecedent factors taken under this study and their relationship with actual purchasing decision. Marketers may therefore strategically target this specific teen segment located in these cities and geographical areas.

LIMITATIONS AND SCOPE FOR FUTURE

This study also leads to the limitations which have been discussed in this section. This study is based on the empirically verification of the conceptual model drafted through the previous literature review and latest company reports. Thus, the first limitation is related to the area sampling. The result found under this study represents the teenage buying behaviour residing in the selected five cities (Yamunanagar, Faridabad, Hisar, Bhiwani and Karnal) of state Haryana. Teenagers' intervention in family purchase decisions may vary according to culture, sub-culture, society and regions. The results found in this study may vary if the same study conducted on other area of the country. Further, the identified factors taken under this study are purely based on an intensive literature review through the systematic approach. The analysis of data is further completely depending upon the authors' own interpretation and analytical skills.

REFERENCES

Alghamdi, E. A., & Bogari, N. (2019). The Impact of Social Media Platforms "Instagram" and "Snapchat" on the Purchasing Decision - Structural Equation Modelling Approach. *International Journal of Online Marketing, 10*(1), 72–94.

Alotaibi, Taghreed Shaher, Afnan Abdulrahman Alkhathlan, and Shaden Saad Alzeer. 2019. "Instagram Shopping in Saudi Arabia: What Influences Consumer Trust and Purchase Decisions?" *International Journal of Advanced Computer Science and Applications* 10 (11): 605–13.

Apergis, Emmanuel. 2019. "Who Is Tech Savvy? Exploring the Adoption of Smartphones and Tablets: An Empirical Investigation." *Journal of High Technology Management Research* 30 (2).

Armagon, Ece. 2013. "Peer Communication and Impacts on Purchasing Decisions: An Application on Teenagers." *International Journal of Social Sciences and Humanity Studies* 5 (2): 60–72.

Citation Information: Nidhi., Thakur, P., Ayushi.B., Sai Teja, K. N., Naga Lakshmi. V, (2026). Determinants of teenagers' intervention in family purchase decision: a sem approach. *Academy of Marketing Studies Journal, 30*(S5), 1-28.

Arora, N., & Aggarwal, A. (2018). The role of perceived benefits in formation of online shopping attitude among women shoppers in India. South Asian Journal of Business Studies, 7(1),91-110.

Atske, S. and Atske, S. (2024) Teens, Social Media and Technology 2023 . Google Scholar

Author, C., & Paulo Baía, J. (2021). "Culture and consumer socialization effects on adolescent's influence on purchase decision of computer for family use: A comparison between mother'' and adolescent' perceptions" "Culture and consumer socialization effects on adolescent's influence." *American International Journal of Business Management (AIJBM), 4*(01), 68–85.

Ballester, E.D. (2004) 'Applicability of a brand trust scale across product categories', European Journal of Marketing, Vol. 38, Nos. 5/6, pp.573–592.

Beatty, Sharon E., and Salil Talpade. 1994. "Adolescent Influence in Family Decision Making: A Replication with Extension." *Journal of Consumer Research* 21 (2): 332.

Belch, George E., Michael A. Belch, and Gayle Ceresino. 1985. "Parental and Teenage Child Influences in Family Decision Making." *Journal of Business Research* 13 (2): 163–176.

Belch, M. A., Krentler, K. A., & Willis-Flurry, L. A. (2005). Teen internet mavens: influence in family decision making. Journal of Business Research, 58(5), 569-575.

Bhatia, M. S., & Awasthi, A. (2018). Assessing relationship between quality management systems and business performance and its mediators: SEM approach. International Journal of Quality & Reliability Management, 35(8), 1490-1507.

Bohra, A. S. (2020). Patterns of internet usage among youths in India. Social Media Matters.

Bohra, A.S. (2020) Patterns of Internet Usage Among Youths in India, Social Media Matters [online]

Byrne, B. M., Muthèn, B., & Shavelson, R. J. (1989). Testing the equivalence of factor covariance and mean structure. *The Issue of Partial Measurement Invariance*, *105*(3), 456–466.

Byrne, B.M. (2001), Structural Equation Modeling with Amos: Basic Concepts Applications, and Programming, Routledge/Taylor & Francis Group, New York, NY.

Carmines, E.G. and McIver, J.P. (1981) 'Analyzing models with unobserved variables: analysis of covariance structures', in Bohrnstedt, G.W. and Borgatta, E.F. (Eds.): Social Measurement: Current Issues, Sage Publications, Beverly Hills, CA, pp.65–115.

Chang, K. C., Hsu, Y. T., Hsu, C. L., & Sung, Y. K. (2019). Effect of tangibilization cues on consumer purchase intention in the social media context: Regulatory focus perspective and the moderating role of perceived trust. Telematics and Informatics, 44, 101265.

Chauhan, P. (2015). A Comparative study on consumer Preferences towards online retail marketers-with special reference to Flipkart, Jabong, Amazon, Snapdeal Myntra and fashion and you. *IJAR*, *1*(10), 1021-1026.

Cheah, J. H., Sarstedt, M., Ringle, C. M., Ramayah, T., & Ting, H. (2018). Convergent validity assessment of formatively measured constructs in PLS-SEM: On using single-item versus multi-item measures in redundancy analyses. *International Journal of Contemporary Hospitality Management*, *30*(11), 3192–3210.

Chen, Q., Eriksson, T., & Giustiniano, L. (2017). Leading well pays off: mediating effects and multi-group analysis of strategic performance. *Management Decision*, *55*(2), 400-412.

Clement, J. (2023) Daily Time Spent Gaming by Platform 2021, Statista

Cristina. (2015, July 13). *Teens influence household purchasing decisions*. The ARF.

Das, G. (2016). Antecedents and consequences of trust: An e-tail branding perspective. *International Journal of Retail & Distribution Management*, *44*(7), 713-730.Google Scholar

De Giovanni, P., & Esposito Vinzi, V. (2014). The benefits of the emissions trading mechanism for Italian firms: A multi-group analysis. *International Journal of Physical Distribution & Logistics Management*, *44*(4), 305-324.

Dedehayir, Ozgur, Roland J. Ortt, Carla Riverola, and Francesc Miralles. 2017. "Innovators and Early Adopters in the Diffusion of Innovations: A Literature Review." *International Journal of Innovation Management* 21 (8).

Djafarova, E., & Rushworth, C. (2017). Exploring the credibility of online celebrities' Instagram profiles in influencing the purchase decisions of young female users. *Computers in human behavior*, *68*, 1-7. Indexed at,Google Scholar,Cross Ref

Dudziak, Agnieszka, Monika Stoma, and Emilia Osmólska. 2023. "Analysis of Consumer Behaviour in the Context of the Place of Purchasing Food Products with Particular Emphasis on Local Products." International Journal of Environmental Research and Public Health 20 (3).

Dwiningrum, S. I. A. (2017). Developing school resilience for disaster mitigation: a confirmatory factor analysis. *Disaster Prevention and Management: An International Journal*, *26*(4), 437-451.

Emerson, S. D., Guhn, M., & Gadermann, A. M. (2017). Measurement invariance of the Satisfaction with Life Scale: Reviewing three decades of research. *Quality of Life Research*, *26*(9), 2251-2264.

Etikan, I. (2016). Comparison of Convenience Sampling and Purposive Sampling. *American Journal of Theoretical and Applied Statistics*, *5*(1), 1.

Citation Information: Nidhi., Thakur, P., Ayushi.B., Sai Teja, K. N., Naga Lakshmi. V, (2026). Determinants of teenagers' intervention in family purchase decision: a sem approach. *Academy of Marketing Studies Journal, 30*(S5), 1-28.

Eun Lee, J., & Stoel, L. (2014). High versus low online price discounts: effects on customers' perception of risks. *Journal of Product & Brand Management*, *23*(6), 401-412.

Evangelista, F., & Dioko, L. A. n. (2011). Interpersonal influence and destination brand equity perceptions. *International Journal of Culture, Tourism and Hospitality Research*, *5*(3), 316–328.

Fernandes, A.A.R. (2017), "Investigation of instrument validity: investigate the consistency between criterion and unidimensional in instrument validity (case study in management research)", International Journal of Law and Management, Vol. 59 No. 6, pp. 1203-1210.

Flores, R. M. (2025, February 27). *47 Key digital marketing statistics for strategic growth in 2025*. Hostinger Tutorials.

Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of marketing research*, *18*(1), 39-50

Gallant, W. H., & Martins, N. (2018). Measurement invariance of employee engagement across race groups. *International Journal of Productivity and Performance Management*, *67*(9), 1463-1481.0

Gooptu, B. (2014, February 17). *Myntra too logs in to new marketplace like Amazon, Flipkart*. The Economic Times.

Hair, J., Black, W., Babin, B. and Anderson, R. (2010) Multivariate Data Analysis, 7th ed., Prentice-Hall International, Upper saddle River, NJ

Heller, L. J. (2013) *Encyclopedia of Behavioral Medicine*, *Encyclopedia of Behavioral Medicine*.

Hernández, B., Jiménez, J., & José Martín, M. (2011). Age, gender and income: do they really moderate online shopping behaviour?. *Online information review*, *35*(1), 113-133.

Hilken, Tim, Debbie I. Keeling, Ko de Ruyter, Dominik Mahr, and Mathew Chylinski. 2020. "Seeing Eye to Eye: Social Augmented Reality and Shared Decision Making in the Marketplace." *Journal of the Academy of Marketing Science* 48 (2): 143–64.

Hutter, Katja, Julia Hautz, Severin Dennhardt, and Johann Füller. 2013. "The Impact of User Interactions in Social Media on Brand Awareness and Purchase Intention: The Case of MINI on Facebook." *Journal of Product and Brand Management* 22 (5): 342–51.

IDRUS, Salim AL, Abdussakir ABDUSSAKIR, Muhammad DJAKFAR, and Shofiyah ALIDRUS. 2021. "The Effect of Product Knowledge and Service Quality on Customer Satisfaction." Journal of Asian Finance, Economics and Business 8 (1): 927–938.

Images Bof. (2024, September 11). *XYST partners with Amazon, Nykaa, Myntra, and Flipkart for e-commerce expansion*. Images Business of Fashion.

João, B. and Baía, P. (2021) 'Adolescent's perception of his influence on purchase decision of mobile phone for his own use: a consumer socialization perspective', Innovative Journal of Business and Management, Vol. 10, No. 1, pp.272–283.

Kang, Hyo Jeong, Jung hye Shin, and Kevin Ponto. 2020. "How 3D Virtual Reality Stores Can Shape Consumer Purchase Decisions: The Roles of Informativeness and Playfulness." *Journal of Interactive Marketing* 49: 70–85.

Kaur, A., & Medury, Y. (2011). Impact of the internet on teenagers' influence on family purchases. *Young Consumers*, *12*(1), 27–38.

Kaur, A., & Thakur, P. (2019). Determinants of Tier 2 Indian consumer's online shopping attitude: a SEM approach. *Asia Pacific Journal of Marketing and Logistics*, *33*(6), 1309–1338.

Kaur, A., & Thakur, P. (2021). Determinants of Tier 2 Indian consumer's online shopping attitude: a SEM approach. Asia Pacific Journal of Marketing and Logistics, 33(6), 1309-1338.

Kaur, A., & Thakur, P. (2021)Determinants of Tier 2 Indian consumer's online shopping attitude: a SEM approach. *Asia Pacific Journal of Marketing and Logistics*, *33*(6), 1309-1338.

Kaur, A., Chauhan, A., & Medury, Y. (2016). Destination image: scale validation and measurement invariance analysis. *International Journal of Leisure and Tourism Marketing*, *5*(1), 4-25.

Le, H. T., Nguyen, P. V., Dinh, H. P., & Dang, C. N. (2017). Effects of country of origin and product features on customer purchase intention: A study of imported powder milk. *Academy of Marketing Studies Journal*, *21*(1), 1-19.

Lee, J. E., Goh, M. L., & Mohd Noor, M. N. B. (2019). Understanding purchase intention of university students towards skin care products. *PSU Research Review*, *3*(3), 161-178.

Lenhart, A. Smith, A. Anderson, M. Duggan, M. and Perrin, A. (2015), "Teens, technology and friendships", available at: www.pewinternet.org/2015/08/06/teens-technology-and- friendships (accessed 10February, 2017).

Liao, Shu Hsien, Da Chian Hu, Yu Chun Chung, and An Pu Huang. 2021. "Risk and Opportunity for Online Purchase Intention – A Moderated Mediation Model Investigation." *Telematics and Informatics* 62 (August 2020): 101621.

MacCallum, R. C., Roznowski, M., & Necowitz, L. B. (1992). Model modifications in covariance structure analysis: the problem of capitalization on chance. *Psychological bulletin*, *111*(3), 490.

Citation Information: Nidhi., Thakur, P., Ayushi.B., Sai Teja, K. N., Naga Lakshmi. V, (2026). Determinants of teenagers' intervention in family purchase decision: a sem approach. *Academy of Marketing Studies Journal, 30*(S5), 1-28.

MacCallum, R. C., Roznowski, M., & Necowitz, L. B. (1992). Model modifications in covariance structure analysis: the problem of capitalization on chance. *Psychological bulletin*, *111*(3), 490.

Mellenbergh, G. J. (1989). Item bias and item response theory. *International journal of educational research*, *13*(2), 127-143.

Meredith, W. (1993). Measurement invariance, factor analysis and factorial invariance. *Psychometrika*, *58*(4), 525-543.

Milfont, T.L. and Fischer, R. (2010), "Testing measurement invariance across groups: applications in cross-cultural research", International Journal of Psychological Research, Vol. 3 No. 1, pp. 111-130.

MillenniumPost. (2023, December 19). MillenniumPost. MillenniumPost. https://www.millenniumpost.in/nation/haryanas-poverty-rate-slips-to-707-in-2019-21-544939#:~:text=CHANDIGARH%3A%20Poverty%20rate%20of%20Haryana,more%20than%204%20per%20cent.

Mishra, A., Maheswarappa, S. S., & Colby, C. L. (2018). Technology readiness of teenagers: a consumer socialization perspective. *Journal of Services Marketing*, *32*(5), 592-604.

Moorman, C., Soli, J., & Seals, M. (2023, August 1). *How the Pandemic Changed Marketing Channels*? Harvard Business Review.

Morgado, F.F., Meireles, J.F., Neves, C.M., Amaral, A.C. and Ferreira, M.E. (2018), "Scale development: ten main limitations and recommendations to improve future research practices", Psicologia:Reflexão e Crítica, Vol. 30 No. 3, pp. 1-20.

Mukhopadhyay, Samar K., and Robert Setoputro. 2004. "Reverse Logistics in E-Business: Optimal Price and Return Policy." *International Journal of Physical Distribution and Logistics Management* 34 (1): 70–89.

Mutua, M. (2024, September 16). *11 Companies That Are Killing It with Their Digital Marketing Campaigns*. Convince & Convert. https://www.convinceandconvert.com/digital-marketing/killing-it-with-digital-marketing-campaigns/

Nidhi, Thakur, P., & Gupta, R. K. (2025). Theoretical framework and conceptual model on teenagers' involvement in family purchase decision. *International Journal of Management Concepts and Philosophy*, *18*(4), 506-521.

Novansa, H. and Ali, H., 2017. Purchase decision model: Analysis of brand image, brand

Padhi, Anish. 2021. "Impact of Youtube Influencers on Consumer Buying Behaviour of The Gadgets." *European Journal of Molecular & Clinical Medicine* 8 (2): 551–60.

Palalic, R., Ramadani, V., Mariam Gilani, S., Gërguri-Rashiti, S., & Dana, L. P. (2021). Social media and consumer buying behavior decision: what entrepreneurs should know?. *Management Decision*, *59*(6), 1249-1270.

Pangemanan, S S, and F S Rumokoy. 2018. "Evaluating Brand Image and Consumer Product Knowledge of Apple Smartphone in Manado." *Jurnal EMBA: Jurnal Riset Ekonomi, Manajemen, Bisnis, Dan Akuntansi* 6 (1): 251–60.

Petrosyan, A. (2023) Global Internet Users Age Distribution 2021, Statista [online]

Philip Kotler and Gary Armstrong (2018) Teens in the US are spending more time on YouTube than on Netflix for the first time, Business Insider.

Pop, Rebeka Anna, Zsuzsa Săplăcan, Dan Cristian Dabija, and Mónika Anetta Alt. 2022. "The Impact of Social Media Influencers on Travel Decisions: The Role of Trust in Consumer Decision Journey." *Current Issues in Tourism* 25 (5): 823–43.

Press Trust of India & Business Standard. (2013, January 19). Teens spend Rs 5k per month on branded clothes: Study.

Press Trust of India & Business Standard. (2013b, January 19). Teens spend Rs 5k per month on branded clothes: Study. *www.business-standard.com*. https://www.business-standard.com/article/beyond-business/teens-spend-rs-5k-per-month-on-branded-clothes-study-111072400052_1.html

Rafiq, M. Y., & Javeid, H. M. U. (2018). Impact of social media on purchasing decision of consumer-with special reference to Lahore, Pakistan. *Journal of Social Sciences*, *4*(2), 268-273.

Rowe, J. W. F., and F. E. Clark. 1927. "Principles of Marketing." *Economica*, no. 19: 118. https://doi.org/10.2307/2548367.

S. Hooda and S. Aggarwal, Consumer behaviour towards e-marketing: A study of Jaipur consumers. Researchers World, 3 (2), p107-118, 2012.

Sahputra, M. R., & Kuala, U. S. (2020). *The Effect of Online Advertising and Electronic Word-Of-Mouth (eWOM) On Online Purchasing Decision Process of Nike Brand Mediated by Brand Awareness among Teenagers in Banda Aceh City*. *3*(2), 140–150.

Salazar-Ordóñez, Melania, Macario Rodríguez-Entrena, Elena R. Cabrera, and Jörg Henseler. 2018. "Understanding Product Differentiation Failures: The Role of Product Knowledge and Brand Credence in Olive Oil Markets." *Food Quality and Preference* 68: 146–55.

Citation Information: Nidhi., Thakur, P., Ayushi.B., Sai Teja, K. N., Naga Lakshmi. V, (2026). Determinants of teenagers' intervention in family purchase decision: a sem approach. *Academy of Marketing Studies Journal, 30*(S5), 1-28.

Samadji, V. (2024, August 1). *Traditional brands and their transition to social media*. Flora Fountain. https://florafountain.com/traditional-brands-and-their-transition-to-social-media/

Schouten, A. P., Janssen, L., & Verspaget, M. (2020). Celebrity vs. Influencer endorsements in advertising: the role of identification, credibility, and Product-Endorser fit. *International journal of advertising*, *39*(2), 258-281.

Schreiber, J. B., Nora, A., Stage, F. K., Barlow, E. A., & King, J. (2006). Reporting structural equation modeling and confirmatory factor analysis results: A review. *The Journal of educational research*, *99*(6), 323-338.

Şener, A. (2011). Influences of adolescents on family purchasing behavior: Perceptions of adolescents and parents. *Social Behavior and Personality: an international journal*, *39*(6), 747-754.

Shamieh, B., & Shehada, M. (2020). The influence of social media applications on youth purchasing decision at the University of Jordan. *International Journal of Management Science and Business Administration*, *6*(4), 30-41.

Shoham, A., & Dalakas, V. (2003). Family consumer decision making in Israel: the role of teens and parents. Journal of Consumer Marketing.

Singh, S., Mondal, S., Singh, L. B., Sahoo, K. K., & Das, S. (2020). An empirical evidence study of consumer perception and socioeconomic profiles for digital stores in Vietnam. *Sustainability*, *12*(5), 1716.

Singh, V. and Singh, A. (2014) 'Teenagers' influence in family buying decision making of FMCG Products: a case study of rural market', International Journal of Management and Social Sciences Research, Vol. 3, No. 2, pp.17–26.

Singh, Vakil, and Amreek Singh. 2014. "Teenagers ' Influence in Family Buying Decision Making of FMCG Products : A Case Study of Rural Market." *International Journal of Management and Social Sciences Research* 3 (2): 17–26.

Slamet, S., Prasetyo, B. P. W., & Azmala, I. (2022). The Impact of Electronic Word of Mouth and Brand Image on Online Purchase Decisions Moderated by Price Discount. *European Journal of Business and Management Research*, *7*(2), 139–148.

Statista. (2023, May 4). *Average daily time spent on video games in the U.S. 2021, by platform*. https://www.statista.com/statistics/186591/video-gaming-habits-of-the-american-youth-by-platform-2009/

Statista. (2024, October 8). *Per capita income in Haryana India FY 2012-2024*. https://www.statista.com/statistics/1116827/india-per-capita-income-haryana/

Statista. (2025, June 23). *Distribution of internet users in India 2013-2025, by age group*. https://www.statista.com/statistics/751005/india-share-of-internet-users-by-age-group/

Statista. (2025b, June 23). *sephora.com: e-commerce net sales 2016-2025*. https://www.statista.com/forecasts/1383797/sephora-revenue-development-ecommercedb

St-Denis, J. (2020, May 18). Advertising in Video Games: Level-Up your digital marketing. *Lexicon*. https://lexiconthai.com/blog/advertising-in-video-games-a-great-way-to-level-up-your-digital-marketing/

Tandon, U., Kiran, R. and Sah, A. (2017), "Analyzing customer satisfaction: user's perspective towards online shopping", Nankai Business Review International, Vol. 8 No. 3, pp. 266-288.

Teo, T., Lee, C.B., Chai, C.S. and Wong, S.L. (2009), "Assessing the intention to use technology among pre-service teachers in Singapore and Malaysia: a multigroup invariance analysis of the Technology Acceptance Model (TAM)", Computers & Education, Vol. 53 No. 3, pp. 1000-1009.

Teo, T., Lee, C.B., Chai, C.S. and Wong, S.L. (2009), "Assessing the intention to use technology among pre-service teachers in Singapore and Malaysia: a multigroup invariance analysis of the Technology Acceptance Model (TAM)", Computers & Education, Vol. 53 No. 3, pp. 1000-1009.

Teo, T., Lee, C.B., Chai, C.S. and Wong, S.L. (2009), "Assessing the intention to use technology among pre-service teachers in Singapore and Malaysia: a multigroup invariance analysis of the Technology Acceptance Model (TAM)", Computers & Education, Vol. 53 No. 3, pp. 1000-1009.

Thakur, P. and Kaur, A. (2020) 'Using correspondence analysis to map online purchase criteria of different product categories', International Journal of Electronic Commerce Studies, 11(1), pp. 45–74.

Transforming India: India's Digital Transformation. (2023). Drishti IAS. https://www.drishtiias.com/loksabha-rajyasabha-discussions/transforming-india-india-s-digital-transformation

Vasan, M. (2021) 'Impact of promotional marketing using Web 2.0 tools on purchase decision of Gen Z', Materials Today: Proceedings, pp.0–3, Elsevier Ltd, DOI: 10.1016/j.matpr.2021.03.188.

Wong, B. (2024b, February 6). Top social media statistics and trends. Forbes Advisor INDIA. https://www.forbes.com/advisor/in/business/social-media-statistics/#sources

Wu, J.W., Chen, Y.C. and Lin, L.M. (2007), "Empirical evaluation of the revised end user computing acceptance model", Computers in Human Behavior, Vol. 23 No. 1, pp. 162-74.

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www.akzonobel.com. (n.d.). Color confidence powers downloads of AkzoNobel's Visualizer app past 20 million | AkzoNobel. [online] Available at: https://www.akzonobel.com/en/media/latest-news---media-releases-/color-confidence-powers-downloads-of-akzonobel-s-visualizer-app-

Z. M. Jusoh and G. H. Ling, Factors influencing consumers' attitude towards e- commerce purchases through online shopping. International Journal of Humanities and Social Science, 2 (4), p223-230, 2012.

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