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Unfolding the Association between the Big Five, Frugality, E-Mavenism, and Sustainable Consumption Behavior

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Abstract: Materialistic lifestyle, along with the increase in the world's population, is leading to unlimited hyper-consumption due to raising the global demand for services and goods. Marketing strategies can be acclimatized to offer more viably to the vital segment of buyers by engaging e-mavens, their antecedents of big five personality traits, frugality, and sustainable consumption behavior are needed to comprehend. The study assessed the novel endeavor to exhibit a potential relationship among the big five, e-mavenism, frugality, and sustainable consumption behavior in social networking sites. This body of knowledge adds to comprehend sustainable consumption behavior and fills many gaps by using data from a sample ($n = 387$) of social networking sites users from China. Causal modeling technique (SEM) is affianced to evaluate the study hypotheses. The data from an online survey disclose a positive association of agreeableness, conscientiousness, extraversion, neuroticism, and openness to experience with e-mavenism. The results affirm that e-mavenism is positively correlated with frugality. Moreover, frugality is vital in the growth of sustainable consumption behavior as well. Eventually, e-mavenism positively influences sustainable consumption behavior. These results enhance understanding of sustainable consumption behavior and provide an opportunity that marketing managers may apply these constructs into their strategies to achieve competitive advantage.

Keywords: e-mavenism; social network sites; frugality; structural equation modeling; sustainable consumption behavior; the big five

1. Introduction

The posting of updates and checking profiles on one or more social network sites (SNSs) in daily life have become part of many individuals [1]. Internationally, the number of online users has increased, so the extent of internet consumers and the audience has also increased [2]. Within the 21st century, it is expected that firms would significantly integrate novel technologies to attain sustainability and competitive advantage [3]. Near about 2020, online users are expected to be around four billion, signifying that targeting customers' needs will be more imperative than ever [4]. Marketers are continuously required to advance business models and strategies [5]. With the progression of the

digital podium, virtual shopping is growing as well, and offering consumers numerous opportunities in the purchasing process, with better and improved products and services [6].

Nowadays, all forms of media have brought together by SNSs. During the last few years, to meet people with similar interests and to express their individuality, they are allowed by this platform [7]. SNSs, proposed by [8], can be divided into many types: common interests, business, friends, photos, dating, pets, and face-to-face facilitation. Research further adds that most SNSs allow users to create a profile for being in contact and proposing recommendations and other functions [9]. Social network refers to “relationships that lie between networks of people.” Within the organizational context, the primary intention of these social networks is to investigate conditions and map social relations that will guide a better understanding of how information flows and how particular relationships work when individuals work together [10]. From the perspective of forming links with users, being social, and growing networks, online social networking is used [11].

In envisaging SNSs activity, exploring the role of personality traits is a possible valuable approach to comprehend the psychology of SNSs usage [1]. One main concern has been the investigation of the Five-Factor Model (FFM) of personality traits or the Big Five and social networking sites activity, with the specific traits being agreeableness, conscientiousness, extraversion, openness to experience and neuroticism. To pair the Big Five model of personality, an opportunity exists with a cybernetic approach to present a reasonable higher-level account of SNSs use and personality [12].

In the research of human behavior, the use of information technology is a topic of immense scientific concern. Personality characteristics affect the interaction of people with each other. Generally, researchers concur that five strong orthogonal traits successfully match personality aspects recognized as the Big Five (BF) [13].

A little is identified regarding the main outcomes of the FFM of personality traits on the distinctiveness of social ties [14]. Although social network analyses mainly focus on the enlightenment of the wide-ranging significance of networks [15], the frequently addressed question has also been about network formation [15–17]. While many social science researchers highlight the effect of personality traits on attitudes and individual behavior [18–21], social network research barely utilizes these prolific approaches [22].

This paper describes a study of the Big Five, e-mavenism, frugality, and sustainable consumption behavior that previously has not been studied. To finalize satisfaction regarding buying decisions and to expand understanding about new updates and features, consumers seek out information about products. Regarding product experience, consumers use their information because numerous consumers search for interpersonal recommendations [23].

Feick and Price [24] initiated the idea of mavenism; researchers have studied a framework of pragmatic results unfolding unique characteristics of mavens’ that “individuals who have information about many kinds of products, places to shop, and other facets of markets, and initiate discussions with consumers and respond to requests from consumers for market information.” For marketers, identifying e-mavens are practically crucial for making their virtual campaigns successful. E-mavens are individuals who use electronic platforms to acquire and spread information.

E-mavens (EM) can be differentiated from general market mavens (MM), which refers to the medium (internet and email), a source to acquire and spread information. To achieve the communication objectives, e-mavens are specifically affianced with the webspace and are competent for searching online information and replying to others’ information queries [25]. A little research has been conducted to identify the relationship between MM and the BF [26]. Although some of the studies express the connection between the BF and MM, none of the studies deal with the association between the Big Five personality traits and e-mavenism.

Frugality is referred to as “a uni-dimensional consumer lifestyle trait characterized by the degree to which consumers are both restrained in acquiring and resourceful in using economic goods and services to achieve longer-term goals” [27]. Scholars’ concern about frugal behavior [28] has increased during the past years due to both significant bases. Firstly, the environment has provoked a growing

number of consumers to follow sustainable consumption. For different researchers, increase of consumers' concerns make this subject matter important. Secondly, strategy designers are concerned about indulging frugality as it could be segmented to rejoinder unfavorable results of disproportionate consumption as a whole, personal life satisfaction, on society, and the environment. Social psychologists scarcely study frugality, so its understanding is concealed [29].

This research spotlights frugality to gain an enhanced understanding of the relationship between e-mavenism and sustainable consumption behavior. No prior study has been conducted about this topic, so it is considered that this research focuses on a potentially significant part of social behavior. This understanding can be beneficial for policymakers and marketing managers aspiring to appeal to this segment and to encourage sustainable consumption. In this research, the antecedent of frugality is e-mavenism. Scholarly interest in frugal behavior provides a significant understanding for marketers who might stress or, on the contrary, deemphasize this segment in their attempt to appeal to SNSs users [28].

A large number of products are required to fulfill the individual's needs with the increased growth of the world's population (approximately 9.4 billion by 2050). Diverse products have various entrenched environmental impacts (from production to transportation processes), and also engender unusual consumption impacts and post-consumption wastage [30,31]. Thus, it is critical to guide consumers to prefer environmentally friendly products and promote sustainable consumption [32]. In current decades, the term 'sustainable consumption' has gained a firm position as a target for businesses, individuals, and governments, equivalent to exceptional development in global consumption and identification of its calamitous impacts on the environment [33].

Consumers are anxious about what they consume and concerned regarding the social and environmental impacts, react to the effect of reference groups and acquire green products, and are yet ready to spend extra for sustainable products. Consumers are progressively more alarmed and ask for more relevant information about the communal influence of merchandise and its manufacturing stage [34]. It is understood that sustainability can be attained by appealing consumers to form minimal behavioral shifts that ease a more sustainable way of life, boost the stipulation for durable goods, and reduce wasteful consumption [35]. In 1994 by the Oslo Symposium, the term 'sustainable consumption' was officially initiated; it has fascinated and increased media and academicians' consideration. The significance of sustainable consumption is noticed to have an enormous influence on contemporary communities [36]. Between frugality and sustainable consumption behavior, an information transition gap still subsists.

Research is needed to understand better that the Big Five, e-mavenism, frugality, and sustainable consumption behavior provide constructive intuition to marketers who may intend to target e-mavenism to procure their communal impact. Firstly, the Big Five model of personality traits as an antecedent potentially differentiates e-mavens from other consumers and enlightens an essential consequence of e-mavenism, i.e., frugality. This outcome of e-mavenism is imperative as an attitude toward expenditures that can strongly affect what customers indeed payout. The primary intention of this research is to explore the association amongst the Big Five, e-mavenism, and frugality, which finally leads towards sustainable consumption behavior.

2. Literature Review and Hypotheses

2.1. Conceptual Framework

The conceptual framework with an anticipated hypothesis is shown in Figure 1.

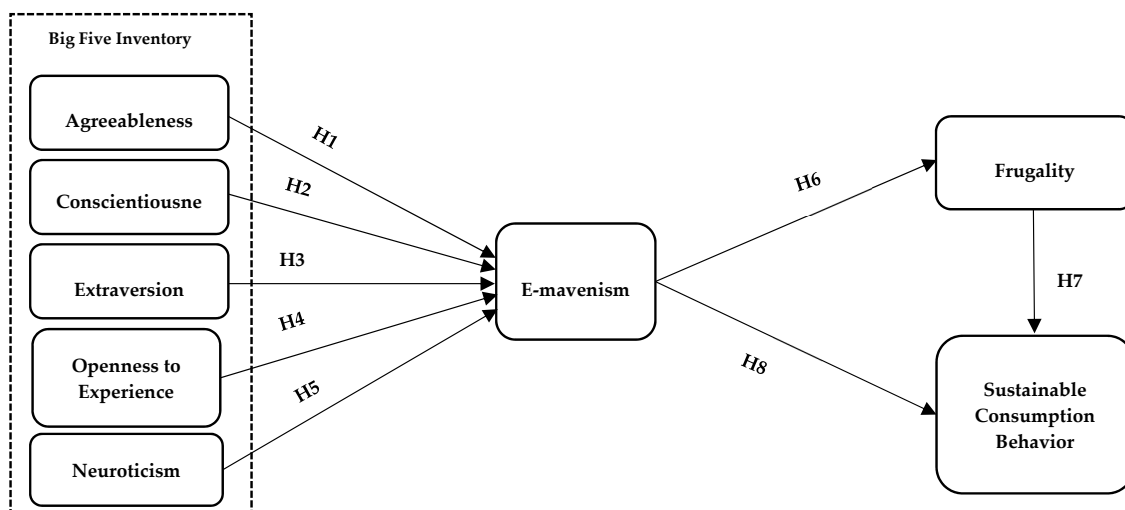


Figure 1. Conceptual framework.

2.2. The Big Five and E-Mavenism

The present study presents the dimensions of the Big Five model of Costa Jr and McCrae [37] in which personality traits are potentially appropriate for illuminating the tendency of marketing activities. “Personality is the consistent behavior of a human being that appears over time with more or less stable internal factors and in comparable situations” [38]. McCrae and Costa Jr [39] refer to “personality as the behaviors of a person in different situations and interaction processes, depending on emotions, motivations, experiences and demonstrating continuity.”

In the consumer behavior market, mavenism has long been an imperative area due to the central part played by market mavens in the market. An advanced research framework illustrates a few of the behavioral, psychological, and demographic distinctiveness of market mavenism, representing amongst the most vital consumer segments [26].

2.2.1. Agreeableness

Dealing with a person’s behavior in interaction with others is called agreeableness [21]. Agreeableness has been characterized in the Big Five as the propensity to be sympathetic, primarily altruistic, and enthusiastic to facilitate others. This personality trait is highly scored, and individuals are helpful, affectionate, kind, supportive, and sympathetic [40]. Particularly, if an individual cares about other people, that individual will pay more attention to other people’s requests. Being a listener to others about marketplace-relevant information is an imperative trait of market mavens [41]. Walsh et al. [42] propose that there may be a theoretical linkage between altruism and market mavens’ gregarious characteristics. Altruism may enable market mavens to be well-connected to other people; accordingly, consumers who have an altruistic psychological tendency are more likely to become a maven than those who do not. How individuals deal in communal situations with others can be appropriately described by agreeableness [18], they are willing to control interaction problems between groups and facilitate connecting people [22]; establishing strong relations with others are liked by agreeable persons [14].

Sudbury and Jones [43] research on values proposes the values articulated by mavens (being well respected, affectionate relations with others, self-controlled, accountable, supportive) will influence them to be more agreeable than average, or specifically, being agreeable may affect consumers to perform more like mavens. In the cybernetic term, agreeableness has a relationship with collaboration and connecting significantly to others [12]. Persons having a low score on agreeableness are expected to have noteworthy difficulty in forming offline relations and use social networking sites for assistance [44].

The conjectural explanation of the Big Five and mavenism suggest few rational hypotheses concerning their associations, where it is assumed that “the Big Five, being more global and abstract aspects of personality than mavenism, which is more specific to the marketplace, are antecedents rather than consequences of mavenism” [26].

2.2.2. Conscientiousness

A conscientious person is identified to be systematized, cautious, achievement-oriented, responsible, punctual, dependable, self-disciplined, and a desire to have long-term associations [45,46]. Top scorers on the conscientiousness dimensions are persistent, goal-directed, and motivated. A few synonyms are “organized, punctual, and reliable,” the opposite of unreliable, negligent, and careless who are low scorers. Though it seems directly not related to mavenism, the uniqueness of the conscientious consumers appears relevant to the systematic approach as mavens share coupons, their buying habits, and gather information. In particular, careful persons prefer to organize their life more than their career as well as their relationships [47]. Networks are needed by conscientious people along with benefits, for instance, support, norm-abiding behavior, and stability. They prefer reliable networks that are needed for well-built relationships, i.e., strong instead of weak ties [14]. Certainly, from a cybernetic viewpoint, conscientiousness is mainly about caring for long term targets rather than short term enticements [12].

For marketplace information, market mavens are known communicators as well. Knowledge sharing with others is preferred by them and accordingly supportive as a consistent source of knowledge. This propensity is reliable through conscientiousness. The element of the market maven’s expertise is information about the “best place” to purchase numerous diverse goods. Consistent with a conscientious individual is the maven’s marketplace information used to fulfill tasks in the consumer marketplace [48] effectively. Conscientiousness defines “the habit of making plans in advance, thinking before acting” [49], and discloses a need to be informed in a better way [21]. EM is fabricated from market mavenism and highlights exploring and publicizing product/market information virtually. E-mavenism is related to online browsing for more hours per week, more carefully family shopping dialogues, reading newsletters, and e-mails [50].

2.2.3. Extraversion

Another likely dimension of the Big Five to be linked with mavenism is extraversion. It has been identified as, “a crucial factor for an explanation of a variety of consumer behaviors” [51]. Extroverts individuals have self-assured conduct, conclusive rational, and longings for social engagement [52].

Extroverted individuals are very dominant, fun-loving, active, assertive, optimistic, lively, talkative, cheerful, person-oriented, and social [53]. Extroverted persons are agreeable individuals, regarded as gregarious and friendly [54]. Additionally, they are active, loquacious, and are most relaxed encircled by large groups. Due to their gregarious personality, they prefer sizeable communal support networks and find opportunities for interactions [55–57]. The essential aspects of mavens are an eagerness to share information, extensive social contacts, and a desire to facilitate others are vital traits of extroverts as well, who are talkative, person-oriented, and sociable. In simple words, gathering marketplace information and the exchange of social interactions form market mavens more extraverted rather than not [48].

Goldsmith and Horowitz [58] suggest that since market mavens with their marketing/product expertise are passionate about educating less informed consumers, market mavens use or purchase the products that may serve as a status symbol amongst consumers. However, literature depicts that for market mavens to make an impact on other consumers, it is not necessary to use/purchase a service/product. Market mavens play more of a helper or consultant role in exerting influence on other consumers. This may be especially true in the online environment. E-mavens may further strengthen their status as lead consumers in the online environment [59]. Kollock [60] states that shortcuts to get status and fame online are impressive and detailed answers to other individuals,

high-quality information, and confirmed willingness to help others. Simultaneously, in the online context, once e-mavens attain a special status, they may be trusted more than ever by other online consumers [59]. According to cybernetic terms, extraversion is linked with behavioral exploration and reward-seeking. On SNS, extraverts will be engaged more in social activity because they are sociable and reward-seeking [12].

2.2.4. Neuroticism

The opposite of neuroticism is emotional stability, being relaxed, calm, self-satisfied, and secure. Neurotic (unstable), individuals are passionate and nervous. In their environments, they are conscious of negative information [53]. When scored positively for neuroticism, emotional stability, appears to be the least expected of the Big Five personality traits associated with mavenism [51]. In passionate stability, customers with higher scores demonstrate a more upper echelon of calmness and trust [61]. In this research, the primary motive for considering neuroticism is an association with mavenism. Lack of emotional stability (neuroticism) is significantly associated with materialism [62], which positively correlates with mavenism [48].

Neurotic individuals are regarded as the least sociable persons who are frequently seen as high-cost interaction partners or “hard to get along with” [16,22]. Neuroticism originates from anxiety, the general feeling of inferiority and fear. Moreover, they hold the general fear of being deceived by other people and are less trusting [54]. Neurotic individuals carry negative views for others [40], which may affect a small social support network and, rather in a very loose form [56], they try to find trust, reliability, and social support from their networks [14]. Neurotic personalities strongly exhibit the exaggerated insight of their will [63].

According to motivational or cybernetic terms, neuroticism is a “defensive response” to a threat. It seems reasonable that in many matters, SNS behavior can be used to average neuroticism by offering a channel for social connection or conversation. Neurotic persons show up as materialistic/materialism by searching for relaxation through the accumulation of goods. Concurrently, materialism directs consumers to discover more about the market information, a source of the required assortments. Thus, neurotic consumers/individuals are expected to learn more and be concerned about the market information as they search to accumulate the commodities they aspire [12]. Internet mavens are projected to carry comprehensive awareness concerning online marketplaces. An Internet maven has the sense to seek out and disseminate information to other individuals, who will be anticipated to get information owed by mavens’ through sophisticated internet skills [64]. Contrarily, to general marketplace involvement, market mavenism may have a vigorous response as consumers endeavor to master the dare offered by changing prices, technologies, and ever-expanding offerings. Neurotic individuals may be anticipated to respond in a less positive and proactive approach rather than market mavens [48].

2.2.5. Openness to Experience

Openness to experience includes imaginative, intellectual, open, broad-minded, creative, analytical, and curious [65]. Public persons are more open to proficiencies and skills, equally pessimistic and optimistic, rather than closed persons [49], and desire more variety [66]. On the contrary, closed individuals’ preference is an acquaintance and tedious [46]. Personal networks are used by open persons to discover innovations in diverse fields of daily lives, i.e., novel dishes or movies to gratify their common interests [18]. To be the first one, finding new hot-spots in town or to recognize, open individuals desire the latest machinery. Regarding this matter, they search for highly diversified impacts. At this point, through receiving information from diverse sources, mavens take advantage [14].

Openness to experience may be a particular characteristic of mavenism. Since internet adoption has considerably amplified, distinctive of this unique information setting may form users who take pleasure in internet usage; as a result, they are more informed about the means than other individuals. An online edition of the market mavens could be expressed as internet mavens. Internet mavens are

projected to carry comprehensive awareness concerning online marketplaces. An internet maven has the sense to seek out information and reply to give information to other individuals, who will be anticipated to get information owed by mavens' through sophisticated internet skills [64]. According to cybernetic terms, openness is related to curiosity and exploration [12]. Additionally, a feature of mavenism is innovativeness, which is significantly associated with transparency [67].

Among all SNS activities, those who are likely to try score high in openness. In earlier studies, an emerged reliable predictor of SNS use is openness [68]. Feick and Price [24] state that one of the characteristics of the mavens is general market information seeking. Mavens are often interested in adopting new brands [69]. Openness is distinguished by adaptability, intelligence, flexibility, intellectual, curiosity, and broad interests [51].

Thus, we propose that rationally solid reasons expect associations amongst the Big Five personality traits and e-mavenism.

Hypothesis 1 (H1). *Agreeableness positively affects e-mavenism to use SNSs.*

Hypothesis 2 (H2). *Conscientiousness positively affects e-mavenism to use SNSs.*

Hypothesis 3 (H3). *Extraversion positively affects e-mavenism to use SNSs.*

Hypothesis 4 (H4). *Neuroticism positively affects e-mavenism to use SNSs.*

Hypothesis 5 (H5). *Openness to experience positively affects e-mavenism to use SNSs.*

2.3. E-Mavenism and Frugality

The digitally connected world has increased customer commitments in multitude forms, i.e., product and advertisement cocreation, user-generated/word of mouth content, referrals, and reviews. Among users, new levels of collaboration and communication opportunities have emerged with the internet [70]. E-maven propensity articulated sequence of word of mouth activities focus on sharing "positive" virtual shopping practice [71]. E-mavens can be differentiated from general market mavens, which refers to the medium (internet and email), a source to acquire and spread information. To achieve their communication objectives, e-mavens are specifically affianced with the webspace and are competent at searching online information and replying to others' information queries [25]. Barnes and Pressey [72] identify market mavens as representatives known as 'super consumers' and passionately circulate general information regarding the marketplace. Such representatives are also known as digital natives, the Millennials.

Over the past decade, as internet-related technologies have progressed, market mavenism has been shifted from the physical setting to the virtual world (i.e., internet). Due to this advancement, the existence of internet mavens originated in online communities and enthusiastically concern virtual communication and trialing the latest services and products. For marketers identifying e-mavens is practically crucial for making their virtual campaigns successful. E-mavens are individuals who use electronic platforms to acquire and spread information. Advancement in the 'market e-mavens' concept has been expanded due to virtual activities, information, and the emergent connotation of online word-of-mouth [25] or 'internet mavens' [64]. Though online consumers are different in the utilization of time spared on the internet, browsing behavior, and the possibility for shopping [73], yet as compared to any other online forum, the average rate of internet adoption has increased. An online notion of the market mavens can be articulated as internet mavens [74]. "E-mavenism is one of the robust indicators on the intention to use and thus actual use of social networking sites" [75].

In both marketing and psychology, frugal behavior is infrequently studied. Frugal consumer behavior is an excellent target for societies and individuals equally, and as a consumption pattern it requires more consideration. Practically, for savvy marketers aiming towards frugal consumers

may be a valuable approach. The most pervasive and relevant person's difference is a frugality that influences consumer saving and spending [76]. Since the original manuscript by [27], consumer psychologists have infrequently studied frugality and define "a uni-dimensional consumer lifestyle trait characterized by the degree to which consumers are both restrained in acquiring and resourceful users of economic goods and services to achieve longer-term goals."

Tatzel [77] explains that consumers incline to be the high scorer in frugality, and materialism is "value seekers" perceive the excellent quality/value arrangement, price experts, and skilled shoppers. Bove, Nagpal and Dorsett [28] point out that frugality is significantly related to market mavenism, which illustrates persons extremely concerned in various facets of the market, therefore considering them well-informed regarding purchasing and shopping. It is anticipated that market mavens apply their market awareness to shopping.

As a value, frugality deals with a directing route for self-regulated consumer behavior. It is the rationale that individuals "strive to reduce discrepancies they sense between their values and behavior" [78]. Feick and Price [24] believe that mavens are helpful to others from the perspective of consumption [79]. About the marketplace, mavens have a broad-spectrum sophistication; their knowledge and proficiency are not product specific. Concerning the depth and scope of acquaintance, market mavens may be up to date, know how and where to negotiate, and are accordingly well placed to be frugal consumers [48].

Urbany et al. [80] investigate MM to be extensively linked with price evaluation behavior and positively linked to explore for particular information about prices. These outcomes support, as compared to market novices, market mavens may be more frugal as price consciousness positively relates to frugality [27].

Frugality is significant to marketing managers, and in a diversity of consumer behavior, it plays the leading role [48]. Accordingly, it depicts value-seeking customers, where mavens have to be reckoned; thus, it is anticipated that

Hypothesis 6 (H6). *E-mavenism has a positive influence on frugality to use SNSs.*

2.4. Frugality and Sustainable Consumption Behavior

Like communication and socialization, many changes are highlighted due to advances in Information Technology (IT). During the past few years, the internet flourished in terms of online photo albums, forums, podcasts, blogs, and instant messaging [7]. Social interaction has been supported by the internet that is scalable at the macro-level (forming a global virtual social network) and the micro-level (bidirectional discussion) [81]. Frugality is considered as an essential behavior distinctive of a sustainable existence [82].

A few studies provide some insights into frugality's impact on credit card use, spending, debt, and saving. However, less is recognized about the influence of frugality on sustainable consumption behavior. Our motivation in this study is to highlight the lack of information related to frugality and sustainable consumption behavior.

Frugal individuals purchase less [83], interpersonal influences are also less focused [27], and they re-use and repair objects [84]. Frugal individuals are different from "tight-wads"; they do not hate spending money instead of enjoying saving it [85]. Additionally, their anti-consumption state of mind affects how they depict the emporium [84]; though, a few "tight-wads" enjoy price shopping (bargain seekers) and are materialistic. One of the significant reasons is that financial circumstances force people to become frugal [86]. Spending behavior, consumption, and economic conditions compel people in a frugal track [87]. Adding up, to behave in a frugal manner, marketing, or/and social influences may persuade an individual. External forces are termed "persuaded frugality." To live a frugal way of life psychological traits can influence individuals. In consumer behavior, a lifestyle can be defined as "a constellation of activities, interests, and opinions that reflect patterns of living" [88]. The concept

“frugality” refers to personality trait or lifestyle that portrays individuals who embrace optimistic attitudes [89], socially conscious consumption [90], and green consumption [91].

The concept of sustainable consumption behavior defines “a consumer that is more conscious and responsible concerning the effects of their consumption decisions have evolved into increasingly broad terms concerning their concern for the environment” [92]. Evans [93] affirmed, “Sustainable consumption is a matter of consuming differently by consuming less, both in terms of quantities of goods and services consumed (volume) and the environmental impacts which are consumed (composition).” This is a type of improved consumption of eco-friendly products, reducing the use of natural resources; shifting the way of life to accomplish future desires, and to satisfy present needs.

Pragmatic studies of consumer behavior clarify that consumers encompass concerns about product-level (sustainability knowledge) that facilitate them to finalize decisions [94]. In consumer attitude, such changes can be observed because satisfying basic existence needs have motivated representation of the standard of living and other promising values during purchasing [95]. Consumers are alarmed regarding environmental and social impact, purchasing ecological products, their consumption, dealing with the reference groups, and for sustainable products, they are eager to spend extra [34]. Additionally, the wiliness of consumers is essential to disburse a premium value for a product, bearing in mind the intelligibility of product information [96,97]. However, the consumers are ready to change their consuming habits or to give a premium worth of sustainability; in fact, they lack adequate and consistent information required for up to date choices [98].

Furthermore, Goldsmith et al. [99] present two main theoretical proposals. Frugal behavior has two key drivers: internal and external. Several individuals follow frugal routines, i.e., seeking value and low prices, limiting consumption and 4R's (repurpose, repair, reuse, and recycle) because their economic conditions have minute options due to general financial circumstances. In reality, by choice, they are not frugal but are controlled by external conditions. A personality or temperament trait is more like an internally provoked frugal behavior, to subsist a frugal life, is the desire or frugality of your own free will. Equally internal and external frugality direct to frugal behavior in the marketplace: 4Rs, bargain hunting, value-seeking, and price sensitivity. Frugal behavior is discouraged or reinforced by a person's cultural and social environment, so frugal behavior is the outcome of an arrangement of external economic factors, the contiguous cultural, social setting, and a person's traits and internal values.

Succeeding proposes that a dissimilarity must be formulated between frugal behavior (eat at home, shop only sales, save rather than spend, etc.), and a frugal way of life viewpoint consists of opinions, activities, and interests.

While preserving Earth's resources for the betterment of sustainable social development necessitates the management of progress in science and technology. In recent years, the availability of low-cost classy products, and economical consumption of resources is a good practice. Through advances in various scientific disciplines, the realization of these innovations the effort and each of these products terms as an advanced frugal innovation to highlight the frugality in consumption of resources [100].

Hypothesis 7 (H7). *Frugality positively affects sustainable consumption behavior to use SNSs.*

2.5. E-Mavenism and Sustainable Consumption Behavior

Market mavens generally encompass broad information of marketing mix and merchandise knowledge. Market mavens are highly vigilant about the understanding of price, marketplace, sales personnel, and product. They are ultra-sensitive and responsive to the fluctuations of the 4Ps, such as a recent price cut on a product. They pay a tremendous amount of attention to a variety of products across varying product categories and appraise the product assortment that has a variety of properties, i.e., quality, variety, and availability. Market mavens attain market-related information based on innate curiosity and serendipity about the market or product [69]. During every stage of the product life cycle

market mavens can be consulted because of their knowledge about the market and products [101]. Shopping has entertainment values to market mavens so they can acquire market-related expertise and pass on to other consumers from their fun and enjoyable shopping experiences [42].

In recent years the rapid growth of SNSs specifies that for several individuals, it is now a mainstream communication technology. The individuals, who use social networking sites, observe it an effortless, leisure time activity, and fun. Regularly, users can communicate with relatives and acquaintances through SNSs, particularly individuals they have not met for so long, contact friends of friends, search for old associates, and yet those individuals they get in touch with they have not seen earlier. Having similar interests, users have the chance to be in touch with people through extending their social circle [7]. An increasing number of individuals use SNSs to advance their social relations [102].

E-mavens attempt to provide relevant consumption information, respond to other consumers' requests in detail, and support mentally and/or inaction. They certainly catch others' attention and enhance the pride of self, through praise and respect from others. E-mavens are most concerned about subjective consumption matters. They may engage in social comparison to ascertain whether their product choices are better than others and able to locate one-of-a-kind commodities [41].

Mavens undertake impressive tasks for collective benefits of the society where consumers subsist and obtain definite sustainability information by personal efficacy, reference groups, and trustworthiness [103]. The main factor of existing sustainable progress is an individual's consumption behavior and an important area of research in social and natural sciences simultaneously [104,105]. In the 21st century, besides this steady surfacing of the field, both in research topics and methods, the study of sustainable consumption began to boom [106]. Sustainable consumption behavior defines "individuals act of satisfying needs in different areas of life by acquiring, using and disposing of goods and services that do not compromise the ecological and socioeconomic conditions of all people (currently living or in the future) to satisfy their own needs" [107].

Social network sites (SNS), proposed by Gross and Acquisti [8], can be divided into nine types: common interests, business, friends, photos, dating, pets, and face-to-face facilitation. Research further adds that mostly SNSs allow users to create a profile which is inclined to be in contact and propose recommendations and other functions [9]. Therefore, it is anticipated that

Hypothesis 8 (H8). *E-mavenism positively affects sustainable consumption behavior to use SNSs.*

3. Materials and Method

3.1. Data Collection

This research used the survey method for data collection. The online questionnaire was designed comprising of eight constructs with various items by using an application 'kwiksurveys.com' and the Chinese social networks: WeChat ("most popular Chinese social media apps, as well as important platforms in enterprise publicity") [108,109] were incorporated for gathering data.

3.2. Sample Size

Through convenience sampling, subjects were drawn from 500 enrolled students at a known university of P.R. China. Over four weeks, 433 responses were obtained. Out of 433 questionnaires, 46 were eliminated due to missing values, and the responses considered for analysis were 387 (accurate responses with 77%). According to Hair et al. [110], the recommended size of a sample is 5–10 responses per item of the construct for a structural model. The present research comprises of 29 questions/items with total exact responses of 387. There were 42% females and 58% males among respondents. Almost 59% and 30% of the study samples were amongst the age group of 16–25 and 26–35, respectively.

3.3. Measurement of Constructs

To measure all the factors of the hypothesized framework, formerly validated scales were adapted. Agreeableness, Conscientiousness, Extraversion, Openness to Experience, and Neuroticism were measured using three items each adapted from [48], which were cross-referenced from the study [111]. E-mavenism was measured using five items adapted from [64]. Frugality was measured using four items adapted from [48] which is cross-referenced from the study [27]. Sustainable Consumption Behavior was measured using three items adapted from [112], and two items adapted from [113]. All adjusted constructs measure with item details and their sources are shown in Appendix A.

To some extent, a few of the scale items were modified for the present study. During the survey, all the study items were measured using seven-point Likert-type scales (from 7 = strongly agree to 1 = strongly disagree), except the demographic profiles. All measures (questionnaire) were interpreted first in Mandarin Chinese, then free back-translation by three local Chinese graduate students who were eloquent in English and Chinese for Chinese respondents [114]. A language and communication teacher cross-checked the questionnaire to make sure translation accurateness. No major inconsistency in conversion was found.

4. Data Analysis and Results

Structural equation modeling (SEM), a causal modeling method comprising of two steps, was employed to evaluate the study model, reliable with the commendation of Anderson and Gerbing [115] through AMOS. In the initial step, the confirmatory factor analysis (CFA) was utilized to refine the measurement model, subsequently in step two, the structural model was assessed by testing the anticipated hypotheses.

To measure the research model, CFA was applied to establish the “composite reliabilities,” and validities (“convergent” and “discriminant”) of the multi-item measures. For determining the paramount measurement model, we excluded one item of constructs that did not possess excellent item reliability to purify the model. All remaining items had substantial loadings on their corresponding construct.

For the present research, recorded values remained good, and over the threshold of 0.70 [116] (Table 1).

Table 1. Standardized factor loadings, construct reliability, and Cronbach’s alpha.

Constructs and Measurement Items	Standardized Loadings ^{a,b}	Construct Reliability	Cronbach’s Alpha
Agreeableness		0.927	0.925
AGR1	0.881		
AGR2	0.901		
AGR3	0.917		
Conscientiousness		0.890	0.888
CON1	0.804		
CON2	0.909		
CON3	0.846		
Extraversion		0.890	0.887
EXT1	0.826		
EXT2	0.816		
EXT3	0.917		
Openness to Experience		0.957	0.953
OTE1	0.806		
OTE2	0.998		
OTE3	0.901		

Table 1. Cont.

Constructs and Measurement Items	Standardized Loadings ^{a,b}	Construct Reliability	Cronbach's Alpha
Neuroticism		0.961	0.961
NEU1	0.947		
NEU2	0.976		
NEU3	0.909		
E-mavenism		0.907	0.905
EM1	0.755		
EM2	0.828		
EM3	0.821		
EM4	0.862		
EM5	0.794		
Sustainable Consumption Behavior		0.978	0.978
SCB1	0.969		
SCB2	0.966		
SCB3	0.967		
SCB4	0.926		
Frugality		0.891	0.891
FRU1	0.856		
FRU2	0.847		
FRU3	0.821		
FRU4	0.753		

Notes—^a: All factor loadings are significant at $p = 0.001$, ^b: Only remaining items after the purification process are shown.

Moreover, the values of average variance extracted (AVE) were in the range from 0.661 to 0.916, and the amount of variance extracted by the scale items measuring the constructs was more significant than shared variations of the corresponding constructs; this study further observed the correlation between any pair of constructs was not more significant than the similar square root of the AVE for measures, respectively (Table 2). Therefore, convergent, as well as discriminant validity, was established. Hence, the confirmation pointed out that the measure scales adapted for the present study had sufficient psychometric quality and could be used in the next phase of analysis.

Table 2. Inclusive statistics and validity [convergent and discriminant] matrix.

Constructs	AVE	MSV	1	2	3	4	5	6	7	8
			SCB	EM	FRU	NEU	OTE	ARG	CON	EXT
1. SCB Sustainable Consumption Behavior	0.916	0.304	0.957							
2. EM E-mavenism	0.661	0.350	0.551 ***	0.813						
3. FRU Frugality	0.673	0.255	0.333 ***	0.505 ***	0.820					
4. NEU Neuroticism	0.892	0.163	0.404 ***	0.400 ***	0.378 ***	0.945				
5. OTE Openness to Experience	0.883	0.028	0.110 *	0.166 **	0.090 [†]	0.130 *	0.940			
6. ARG Agreeableness	0.810	0.115	0.164 **	0.299 ***	0.112 *	0.110 *	0.108 *	0.900		
7. CON Conscientiousness	0.730	0.134	0.165 **	0.366 ***	0.213 ***	0.214 ***	0.089 [†]	0.339 ***	0.854	
8. EXT Extraversion	0.729	0.350	0.484 ***	0.592 ***	0.400 ***	0.319 ***	0.131 *	0.178 **	0.222 ***	0.854

Notes: Along diagonal are square roots of AVE, off-diagonals are inter-construct correlations. Significance of Correlations: [†] $p < 0.100$, * $p < 0.050$, ** $p < 0.010$, *** $p < 0.001$.

Multiple fit criteria were deployed to obtain the inclusive model fit. The fit indices were in the accepted thresholds, as recommended by [110,117] (Table 3).

Table 3. The goodness of fit statistics.

CMIN	
Chi-Square (x2) or CMIN	436.286
Degree of Freedom (DF)	322
Normed Chi-Square (CMIN/DF)	1.355
GFI, SRMR	
Goodness of Fit Index (GFI)	0.927
Adjusted Goodness of Fit Index (AGFI)	0.908
Standardized Root Mean Square Residual (SRMR)	0.034
RMSEA	
Root Mean Square Error of Approximation (RMSEA)	0.030
Probability of Close Fit (PCLOSE)	1.000
Baseline Comparison	
Normed Fit Index (NFI)	0.964
Relative Fit Index (RFI)	0.957
Incremental Fit Measures (IFI)	0.990
Tucker-Lewis Index (TLI)	0.988
Comparative Fit Index (CFI)	0.990

For structural model analysis, AMOS was applied to test the hypotheses empirically. All of the hypothesized relationships were fully supported (Table 4).

Table 4. Full path results of the hypothesized framework.

Path	Regression Weights			
	Estimates	S.E.	C.R.	p
Hypothesis 1 (H1)				
E-mavenism \leftarrow Agreeableness	0.203	0.064	3.179	***
Hypothesis 2 (H2)				
E-mavenism \leftarrow Conscientiousness	0.191	0.052	3.657	***
Hypothesis 3 (H3)				
E-mavenism \leftarrow Extraversion	0.404	0.043	9.503	***
Hypothesis 4 (H4)				
E-mavenism \leftarrow Openness to Experience	0.122	0.047	2.610	**
Hypothesis 5 (H5)				
E-mavenism \leftarrow Neuroticism	0.156	0.033	4.713	***
Hypothesis 6 (H6)				
Frugality \leftarrow E-mavenism	0.487	0.049	9.952	***
Hypothesis 7 (H7)				
Sustainable Consumption Behavior \leftarrow Frugality	0.146	0.068	2.141	*
Hypothesis 8 (H8)				
Sustainable Consumption Behavior \leftarrow E-mavenism	0.711	0.074	9.634	***

Note: *** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$.

The findings put forward that ARG, CON, EXT, OTE, and NEU have a positive and significant effect on EM; further E-mavenism has a positive influence on frugality ($\beta = 0.45$, $p < 0.001$), subsequently on sustainable consumption behavior ($\beta = 0.10$, $p < 0.05$). E-mavenism also has a positive and significant influence on sustainable consumption behavior ($\beta = 0.47$, $p < 0.001$) (Figure 2). Thus, all hypotheses are completely supported. As anticipated, the SNSs usage was found to be positively linked to sustainable consumption behavior. The summary of hypotheses tests is shown in (Table 5).

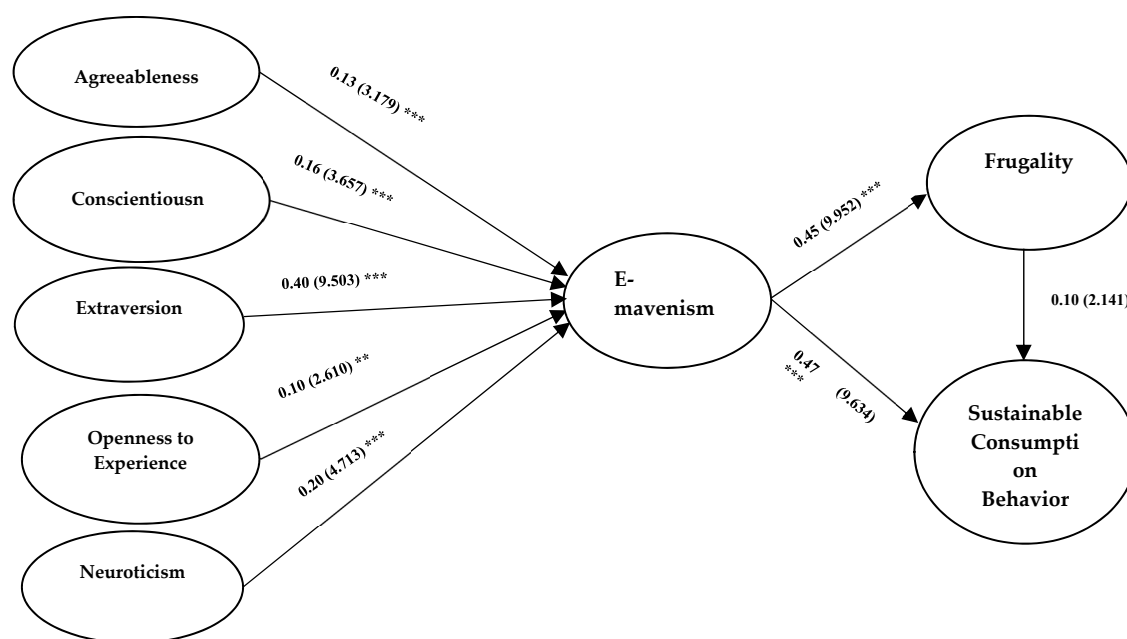


Figure 2. SEM-structured solution. Note: *** Significant at the level 0.001, ** Significant at the level 0.01, * Significant at the level 0.05.

Table 5. Summary of hypotheses tests.

Hypotheses	Supported/Not Supported
Hypothesis 1 (H1). Agreeableness positively affects e-mavenism to use SNSs.	Supported
Hypothesis 2 (H2). Conscientiousness positively affects e-mavenism to use SNSs.	Supported
Hypothesis 3 (H3). Extraversion positively affects e-mavenism to use SNSs.	Supported
Hypothesis 4 (H4). Neuroticism positively affects e-mavenism to use SNSs.	Supported
Hypothesis 5 (H5). Openness to experience positively affects e-mavenism to use SNSs.	Supported
Hypothesis 6 (H6). E-mavenism has a positive influence on frugality to use SNSs.	Supported
Hypothesis 7 (H7). Frugality positively affects sustainable consumption behavior to use SNSs.	Supported
Hypothesis 8 (H8). E-mavenism positively affects sustainable consumption behavior to use SNSs.	Supported

5. Discussion

The current research intended to unfold the conjunction amongst the BF personality traits, EM, and how EM is interrelated to the important facet of sustainable consumption behavior. The analyses show that as H1, H2, H3, H4, and H5 hypothesized, the Big Five dimensions of personality are positively linked to e-mavenism.

Additionally, H6 that is validated by the result ($\beta = 0.45, p < 0.001$) shows e-mavenism is positively associated with frugality. E-mavens are active customers who search for comparison shops, clip coupons, and bargains to obtain the excellent deals through SNSs. Such conducts are emotions of their intrinsic frugal predisposition. Actually, it is believable that frugality is, to some extent, the outcome of the further innate e-mavens facet of several consumers' characters. Subsequently, hypothesis H7 proposes that frugality has a positive influence on sustainable consumption behavior, the result ($\beta = 0.10, p < 0.05$) supports this hypothesis as well.

Moreover, hypothesis H8 shows the direct relationship of e-mavenism with sustainable consumption behavior; the result confirms that ($\beta = 0.47, p < 0.001$), and shows the positive and significant influence on sustainable consumption.

The sustainable consumption behavior influences the use of social networking sites, as the research results elaborate and reveal that the Big Five has a significant influence on e-mavenism who has excellent knowledge regarding market information which further has a vital impact on frugality that is known as careful spending from the customers that leads towards sustainable consumption behavior that has an outcome of the use of SNSs.

The FFM comprises traits, specifically “neuroticism, extraversion, openness to experiences, agreeableness, and conscientiousness.” “Neuroticism is the inverse of emotional stability. Individuals high in neuroticism are emotionally unstable and tend to be anxious, nervous, sad, and tense” [118]. Extraversion is also known as “surgency” [119], and refers to the propensity of “an energetic approach toward the social and material world and includes traits such as sociability, activity, assertiveness, and positive emotionality” [118]. The study established confirmatory relations between extraversion and SNS usage. “Openness to new experiences” has also been labeled as “intellect” [119] or culture [120], which defines “the breadth, depth, originality, and complexity of an individual’s mental and experiential life” [118]. Agreeableness encompasses traits, for instance, “altruism, tender-mindedness, trust and modesty” [118]. Persons low in agreeableness are “pro-social and communal orientation toward others with antagonism” [118]. Conscientiousness has also been labeled as “dependability” [119], and defines “individuals that are socially prescribed impulse control that facilitates task- and goal-directed behavior, such as thinking before acting, delaying gratification, following norms and rules, and planning, organizing and prioritizing tasks” [118].

Wang et al. [121] indicate that those persons who are open to experiences and hold a high intensity of market mavenism are more expected to join in proactive post-sale services, therefore, generating worth. In addition, the authors of [42] recognize three motivational elements that differentiate market mavens from other vital sectors. They establish that market mavens are motivated to share information with other consumers because of the logic of responsibility to share information, contentment in sharing knowledge, and a wish to facilitate others. Likewise, recent studies point out that market mavens do not connect in the marketplace presently to articulate altruism but in addition to personal motives, to enhance self-esteem, to establish high self-efficacy, to enhance confidence, require distinctiveness, perfectionism, and materialism. Besides, in [122] the authors emphasize that market mavens have positive attitudes towards advertising, which they believe to be a consistent medium of information and source of consumer knowledge and information. The authors of [123] have demonstrated that perceived high flow practice, immersive and pragmatic satisfaction are the key elements of market mavens in the virtual environment. Significantly, in [124] the authors indicate that market mavens have a multi-tasking direction which eases interactions, information exploration, and use of different technologies [125].

Economic recession and environmental degradation have led to a time of frugality. Consumers are taking up controlled sustainable consumption and simplicity with anticipation to re-establish prosperity and peace into their lives. Lastovicka, Bettencourt, Hughner, and Kuntze [27] find that scarce literature is accessible on frugality and highlights the usefulness of frugality as an idea for consumer behavior research [126]. As a standard of living, frugality is referred to as “the degree to which consumers are both restrained in acquiring and in resourcefully using economic good and service to achieve longer-term goals” [27]. Frugality is extremely worthwhile in several cultures, for instance, Chinese Jewish/Christian and Taoist. Like the proverbs utter, “a penny saved is a penny earned,” “He who will not economize will have to agonize” (Confucius), and “Be industrious and frugal, and you will be rich. Be sober and temperate, and you will be healthy” (Benjamin Franklin). Various studies disclose the influencing aspects of frugality. Earlier research found that a few situational elements like unemployment and the economic recession will affect an individual’s frugality [87]. Mostly the studies focus on the impact of consumers’ distinctiveness, such as consumer decision making patterns, values, and demographics. The classical research regarding frugality conduct by [27] suggests that value consciousness and price consciousness were positively related to frugality. Generally, frugality has not gained much consideration in recent years, and a small number of studies articulate the impact

of personality. In this study, we examined e-mavenism as an antecedent of frugality and sustainable consumption behavior as an outcome of frugality and found a significant relationship among them.

The sustainable consumption is referred to as “consumption that simultaneously optimizes the environmental, social, and economic consequences of the acquisition, use, and disposition to meet the needs of both current and future generations” [127,128]. Although, sustainable consumption is not just the consumption of durable merchandise, yet comprises different happenings alongside the diverse phases from the original production to final use. Thus, it is required for social discipline studies to go ahead of production and technology and further embraces household, way of life, and behavior. Research concerning sustainable consumption is implemented in wide-ranging and multifaceted studies relating to disciplines as varied as psychology, social philosophy, consumer behavior research, sociology, economics, and anthropology [129].

6. Implications

Fast information searching and sharing has accelerated due to the advent of technology. About products and market trends, customers search for information to improve knowledge. Furthermore, in disseminating information regarding products, consumers are increasingly becoming vocal. Before purchasing goods, consumers rely on interactive recommendations that have added to the rise of word of mouth. This behavior has created significant challenges. Marketers come across the supremacy of consumer-controlled information channels for marketing communication [130,131]. Though, an opportunity for marketers is being provided through this phenomenon, as mentioned earlier. Efficient marketing campaigns can be launched if marketers can understand the personal factors of consumers for influencing information search and diffusion [132,133]. Enhanced consideration of personal aspects is a first spur in segmenting markets, developing consumer engagement programs, and customizing marketing messages. Additionally, by considering the self-motives and social circulating information, consumers can be encouraged to discuss products [134,135]. Corresponding readiness to discuss products with others and participation in many facets of the marketplace is the hallmark of market mavenism [136]. Frugality is one of the essential outcomes of e-mavenism. As what consumers spend can powerfully influence attitude towards spending [27], and critical information for marketers is to compare other consumers, whether e-mavens are more/less brand steadfast than who may deemphasize or equally stress this factor in their efforts to request mavens [48]. Policymakers and marketing managers can be facilitated by observing the psychology of the frugal consumer seeking to promote consumer welfare and sustainable consumption. For example, frugal customers may be fascinated in purchasing brands in addition to provide utilitarian benefits that reflect their sentiments of freedom. Due to reduced economic circumstances, perhaps consumers are frugal [90]. To express frugal values and virtues, marketers could position existing brands or create new ones. As a significant representation of their sage consumer behavior, consumers may be convinced to adopt the brands. Creating frugality as an enviable distinctive that would lead to meandering sustainable consumption. An improved grip of the psychology of this conduct may be the approach to elude disruptive or mandatory strategies to completion [99].

Hypothetically, sustainable consumption initiates ethical consumer research, which has also been discussed with diverse fields such as economics, administration, psychology, sociology, and philosophy, to exclusively frame the development of an effective interdisciplinary study [137]. “The economic, social, and environmental factors synergize for sustainable development, and relates to fundamental speculations, looking to unclutter a query encompassing view of the China Pakistan Economic Corridor (CPEC)” [138].

7. Limitations

The findings based on convenience sample (non-probability sampling) raise the topic of self-selection bias and generalization. The outcomes do not specify causal relations due to the survey method. The current research is restricted by the number of variables incorporated. For the

variables included in the research, there may be the availability of alternative measures, though the present research demonstrates the validity and reliability of the used measures.

In the present research, one of the limitations is the fact that the data is gathered from university students of a highly collectivistic single country.

8. Future Recommendations

The respondents were university students (from known university of P.R. China), and it would be valuable in future exploration to confirm whether these outcomes are generalizable to other types of users and in the cultural framework as well. More explicitly, the comparative investigation would be valuable in Western countries, which are less relationship-oriented and more individualistic than the Chinese culture, to assess the extent of the conclusions of the current study. Thus, for the escalation of the external validity of the findings, the comparative, cross-cultural study should be conducted in countries with diverse cultures.

Due to the online survey data collection from Chinese university students, the research is skewed towards young users with high education levels. Therefore, due to the distinctive individuality of different generations, it should be considered that using a sample from the general population may result in different findings regarding user's sustainable consumption behavior. Therefore, future studies should be replicated by using a more different sample from the common people, as well as other generations.

The generalizability of study findings increases with probability sampling. Intra and intercultural studies can be conducted to broaden the picture of sustainable consumption behavior in Eastern, especially Asian countries, i.e., Pakistan, Bangladesh, and India.

It is recommended that future research should consider other consumer's profiles, for instance, senior citizens' factions and explore whether the reported associations and results agree. While matching up the associations amongst the constructs to find out age group gaps can also be exciting. Cultural diversity could also offer a vital role in virtual consumer behavior.

9. Conclusions

The study has a more precise grasp that the BF personality traits are linked with EM, and evidence sustains the theoretically significant concepts that e-mavenism is linked with both frugality and sustainable consumption behavior. The research results append the understanding regarding e-mavenism and explain some likely outcomes: frugal shoppers want to conserve money and accomplish goals being active customers (e-mavens), by their valuable information of the marketplace to gain the excellent value of their money leading to sustainable consumption. E-mavens could be anticipated to seek the latest brands and are less loyal to accessible ones and those who appear to be frugal but search and squander more as compared to other consumers. The study proposes the drive to gain the worth of being an active shopper and to collaborate with the e-mavens online participation in the searching and excitement to shop. They do more shopping and spend more as well.

Focusing on a managerial viewpoint, the results advocate that managers looking for e-mavens might think that strategies regarding promotional campaigns motivate the well planned, money-saving facets of their offerings. Possibly, appeals communicate "secret" techniques insider information would match with the e-maven's drive scheme. These appeals should be felt attractive by e-mavens. Directly targeting coupons and other promotional tools would identify e-mavens as well. Involving interest with the brands in the marketplace would capitalize on e-mavens as advocates. Managers could request them to take part virtually in brand sponsored SNSs to influence other consumers.

The disseminators of marketplace knowledge, echelon of concerns, and understanding in the online information are fundamental to a market segment; a few pragmatic studies have observed the segment of e-mavens in promoting SNSs. As technology keeps on offering novel ways of interpersonal influences, it is significantly required to extend an enhanced consideration of influencers and their consumption behavior. The authors concentrated on e-mavens and crafted the present study of their

profile by the BF personality traits, a value-based construct, and affect consumers through its link with frugality and sustainable consumption behavior.

The insights of the frugal consumer can be helpful to policymakers and marketing managers to seek and promote consumer welfare through sustainable consumption. While purchasing brands, the interest of frugal consumers might reflect their independent feelings, adding up to offer practical benefits. E-mavens possibly will be independent and influenced to buy products as meaningful signs of their sensible consumer behavior.

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Appendix A

Table A1. Construct Measures.

Constructs	Items	Scale Adapted
Agreeableness (AGR)	<p>AGR1. I see myself as someone who likes to cooperate with others.</p> <p>AGR2. I see myself as someone who is considerate and kind to almost everyone.</p> <p>AGR3. I see myself as someone who is sometimes rude to others. (R)</p>	Agreeableness was measured using three items adapted from [48] which is cross-referenced from the study [111]
Conscientiousness (CON)	<p>CON1. I see myself as someone who does things efficiently.</p> <p>CON2. I see myself as someone who can be somewhat careless. (R)</p> <p>CON3. I see myself as someone who does a thorough job.</p>	Conscientiousness was measured using three items adapted from [48] which is cross-referenced from the study [111]
Extraversion (EXT)	<p>EXT1. I see myself as someone who is talkative.</p> <p>EXT2. I see myself as someone who is quiet. (R)</p> <p>EXT3. I see myself as someone who is outgoing, sociable.</p>	Extraversion was measured using three items adapted from [48] which is cross-referenced from the study [111]
Openness to Experience (OTE)	<p>OTE1. I see myself as someone who is original, comes up with new ideas.</p> <p>OTE2. I see myself as someone who has an active imagination.</p> <p>OTE3. I see myself as someone who is inventive.</p>	Openness to Experience was measured using three items adapted from [48] which is cross-referenced from the study [111]
Neuroticism (NEU)	<p>NEU1. I see myself as someone who is relaxed, handles stress well. (R)</p> <p>NEU2. I see myself as someone who is emotionally stable, not easily upset. (R)</p> <p>NEU3. I see myself as someone who remains calm in tense situations. (R)</p>	Neuroticism was measured using three items adapted from [48] which is cross-referenced from the study [111]

* Items dropped.

Table A1. Cont.

Constructs	Items	Scale Adapted
E-mavenism (EMV)	<p>EMV1. I like using information collected from the SNSs to introduce new brands and products to my family and friends.</p> <p>EMV2. I like helping my family and friends by using SNSs to provide them with information about various kinds of products and services.</p> <p>EMV3. My family and friends often ask me to search for the SNSs to provide them with information about products, places, and sites to shop, sales, etc.</p> <p>EMV4. If someone wanted to know which SNSs had the best bargains on various types of products and services, I could tell him or her.</p> <p>EMV5. My family and friends think of me as a good source of information from the SNSs when it comes to new products, sites to visit, sales, etc.</p>	<i>E-mavenism</i> was measured using five items adapted from [64]
Frugality (FRU)	<p>FRU1. I am willing to wait on a purchase I want so that I can save money.</p> <p>FRU2. There are things I resist buying today, so I can save for tomorrow.</p> <p>FRU3. I believe in being careful about how I spend my money.</p> <p>FRU4. I discipline myself to obtain the most from my money.</p>	<i>Frugality</i> was measured using four items adapted from [48] which is cross-referenced from the study [27]
Sustainable Consumption Behavior (SCB)	<p>SCB1. I perform daily activities to care for and preserve the environment.</p> <p>SCB2. How motivated do you feel to make changes in your lifestyle in search of more responsible consumption?</p> <p>SCB3. How would you rate your responsible consumption behavior?</p> <p>SCB4. I purchase and use products which are environmentally friendly</p> <p>* SCB5. I often pay extra money to purchase an environmentally friendly product.</p>	<i>Sustainable Consumption Behavior</i> was measured using three items adapted from [112], and two items adapted from [113]

* Items dropped.

References

1. Liu, D.; Campbell, W.K. The Big Five personality traits, Big Two metatraits and social media: A meta-analysis. *J. Res. Personal.* **2017**, *70*, 229–240. [\[CrossRef\]](#)
2. Huseynov, F.; Özkan Yıldırım, S. Online Consumer Typologies and Their Shopping Behaviors in B2C E-Commerce Platforms. *Sage Open* **2019**, *9*. [\[CrossRef\]](#)
3. Howell, D.W. Social Media Site Use and the Technology Acceptance Model: Social Media Sites and Organization Success. Ph.D. Thesis, Capella University, Minneapolis, MN, USA, 2016.
4. Fedorko, I.; Bacik, R.; Gavurova, B. Technology acceptance model in e-commerce segment. *Manag. Mark. Chall. Knowl. Soc.* **2018**, *13*, 1242–1256. [\[CrossRef\]](#)
5. Ungerman, O.; Dedkova, J.; Gurinova, K. The impact of marketing innovation on the competitiveness of enterprises in the context of industry 4.0. *J. Compet.* **2018**, *10*, 132–148. [\[CrossRef\]](#)
6. Pappas, I.O. User experience in personalized online shopping: A fuzzy-set analysis. *Eur. J. Mark.* **2018**, *52*, 1679–1703. [\[CrossRef\]](#)
7. Ho, A.; Maiga, A.; Aïmeur, E. Privacy Protection Issues in Social Networking Sites. In Proceedings of the IEEE/ACS International Conference on Computer Systems and Applications, Rabat, Morocco, 10–13 May 2009; pp. 271–278. [\[CrossRef\]](#)
8. Gross, R.; Acquisti, A. Information Revelation and Privacy in Online Social Networks. In Proceedings of the ACM Workshop on Privacy in the Electronic Society, Alexandria, VA, USA, 7 November 2005; pp. 71–80.

9. Chen, X.; Shi, S. A Literature Review of Privacy Research on Social Network Sites. In Proceedings of the International Conference on Multimedia Information Networking and Security, Hubei, China, 18–20 November 2009; pp. 93–97. [\[CrossRef\]](#)
10. Rashid, A.; Wang, W.Y.; Hashim, K.F. Social Networks and Its Impact on Knowledge Management. In Proceedings of the IEEE International Conference on Control System, Computing and Engineering, Penang, Malaysia, 25–27 November 2011; pp. 227–230. [\[CrossRef\]](#)
11. Fusco, S.J.; Michael, K.; Michael, M. Using a Social Informatics Framework to Study the Effects of Location-Based Social Networking on Relationships Between People: A Review of Literature. In Proceedings of the IEEE International Symposium on Technology and Society, Wollongong, NSW, Australia, 7–9 June 2010; pp. 157–171.
12. DeYoung, C.G. Cybernetic Big Five Theory. *J. Res. Personal.* **2015**, *56*, 33–58. [\[CrossRef\]](#)
13. Favaretto, R.M.; Dihil, L.; Musse, S.R.; Vilanova, F.; Costa, A.B. Using Big Five Personality Model to Detect Cultural Aspects in Crowds. In Proceedings of the IEEE 2017-30th SIBGRAPI Conference on Graphics, Patterns and Images (SIBGRAPI), Niteroi, Brazil, 17–20 October 2017; pp. 223–229. [\[CrossRef\]](#)
14. Rapp, C.; Ingold, K.; Freitag, M. Personalized networks? How the Big Five personality traits influence the structure of egocentric networks. *Soc. Sci. Res.* **2019**, *77*, 148–160. [\[CrossRef\]](#) [\[PubMed\]](#)
15. Borgatti, S.P.; Brass, D.J.; Halgin, D.S. Social Network Research: Confusions, Criticisms, and Controversies. *Contemp. Perspect. Organ. Soc. Netw.* **2014**, *40*, 1–29. [\[CrossRef\]](#)
16. Ishiguro, I. Extroversion and neuroticism affect the right side of the distribution of network size. *Soc. Netw.* **2016**, *44*, 219–225. [\[CrossRef\]](#)
17. Lepri, B.; Staiano, J.; Shmueli, E.; Pianesi, F.; Pentland, A. The role of personality in shaping social networks and mediating behavioral change. *User Model. User Adapt. Interact.* **2016**, *26*, 143–175. [\[CrossRef\]](#)
18. Freitag, M.; Bauer, P.C. Personality Traits and the Propensity to Trust Friends and Strangers. *Soc. Sci. J.* **2016**, *53*, 467–476. [\[CrossRef\]](#)
19. Gallego, A.; Oberski, D. Personality and Political Participation: The Mediation Hypothesis. *Polit. Behav.* **2012**, *34*, 425–451. [\[CrossRef\]](#)
20. Gerber, A.S.; Huber, G.A.; Doherty, D.; Dowling, C.M. The BIG FIVE Personality Traits in the Political Arena. *Annu. Rev. Polit. Sci.* **2011**, *14*, 265–287. [\[CrossRef\]](#)
21. Mondak, J.J. *Personality and the Foundations of Political Behavior*; Cambridge University Press: New York, NY, USA, 2010.
22. Fang, R.; Landis, B.; Zhang, Z.; Anderson, M.H.; Shaw, J.D.; Kilduff, M. Integrating Personality and Social Networks: A Meta-Analysis of Personality, Network Position, and Work Outcomes in Organizations. *Organ. Sci.* **2015**, *26*, 1243–1260. [\[CrossRef\]](#)
23. Sangwan, S.; Agarwal, P. Effect of consumer self-confidence on information search and dissemination: Mediating role of subjective knowledge. *Int. J. Consum. Stud.* **2019**, *43*, 46–57. [\[CrossRef\]](#)
24. Feick, L.F.; Price, L.L. The Market Maven: A Diffuser of Marketplace Information. *J. Mark.* **1987**, *51*, 83–97. [\[CrossRef\]](#)
25. Ho, J.Y.; Dempsey, M. Viral marketing: Motivations to forward online content. *J. Bus. Res.* **2010**, *63*, 1000–1006. [\[CrossRef\]](#)
26. Goldsmith, R.E.; Flynn, L.R. Hi, My name Is PAT and I am both Extraverted and a Market Maven: An update and extension of research on Market Mavenism and The Big Five Personality Scale. In Proceedings of the Association of Marketing Theory & Practice, Savannah, Georgia, 26 March 2015.
27. Lastovicka, J.L.; Bettencourt, L.A.; Hughner, R.S.; Kuntze, R.J. Lifestyle of the tight and frugal: Theory and measurement. *J. Consum. Res.* **1999**, *26*, 85–98. [\[CrossRef\]](#)
28. Bove, L.L.; Nagpal, A.; Dorsett, A.D.S. Exploring the Determinants of the Frugal Shopper. *J. Retail. Consum. Serv.* **2009**, *16*, 291–297. [\[CrossRef\]](#)
29. Ballantine, P.W.; Creery, S. The Consumption and Disposition Behaviour of Voluntary Simplifiers. *J. Consum. Behav. Int. Res. Rev.* **2010**, *9*, 45–56. [\[CrossRef\]](#)
30. Wang, X.; Cai, H.; Florig, H.K. Energy-saving implications from supply chain improvement: An exploratory study on China's consumer goods retail system. *Energy Policy* **2016**, *95*, 411–420. [\[CrossRef\]](#)
31. Wikström, F.; Williams, H.; Verghese, K.; Clune, S. The influence of packaging attributes on consumer behaviour in food-packaging life cycle assessment studies-a neglected topic. *J. Clean. Prod.* **2014**, *73*, 100–108. [\[CrossRef\]](#)

32. Song, L.; Lim, Y.; Chang, P.; Guo, Y.; Zhang, M.; Wang, X.; Yu, X.; Lehto, M.R.; Cai, H. Ecolabel's role in informing sustainable consumption: A naturalistic decision making study using eye tracking glasses. *J. Clean. Prod.* **2019**, *218*, 685–695. [\[CrossRef\]](#)
33. Diprose, K.; Valentine, G.; Vanderbeck, R.M.; Liu, C.; McQuaid, K. Building Common Cause towards Sustainable Consumption: A Cross-Generational Perspective. *Environ. Plan. E Nat. Space* **2019**, *2*, 203–228. [\[CrossRef\]](#)
34. Shao, J.; Taisch, M.; Mier, M.O. Influencing factors to facilitate sustainable consumption: From the experts' viewpoints. *J. Clean. Prod.* **2017**, *142*, 203–216. [\[CrossRef\]](#)
35. Verhofstadt, E.; Van Ootegem, L.; Defloor, B.; Bleys, B. Linking individuals' ecological footprint to their subjective well-being. *Ecol. Econ.* **2016**, *127*, 80–89. [\[CrossRef\]](#)
36. Ofstad, S. Sustainable Consumption. In Proceedings of the Symposium: Sustainable Consumption, Oslo, Norway, 19–20 January 1994.
37. Costa, P.T., Jr.; McCrae, R.R. Personality Disorders and the Five-Factor Model of Personality. *J. Personal. Disord.* **1990**, *4*, 362–371. [\[CrossRef\]](#)
38. Child, I.L. Personality in Culture. In *Handbook of Personality Theory and Research*; Rand McNally Chicago: Chicago, IL, USA, 1968; pp. 82–145.
39. McCrae, R.R.; Costa, P.T., Jr. Reinterpreting the Myers-Briggs type indicator from the perspective of the five-factor model of personality. *J. Personal.* **1989**, *57*, 17–40. [\[CrossRef\]](#)
40. McCrae, R.R.; John, O.P. An introduction to the five-factor model and its applications. *J. Personal.* **1992**, *60*, 175–215. [\[CrossRef\]](#)
41. Zhang, J.; Lee, W.-N. Exploring the impact of self-interests on market mavenism and E-mavenism: A Chinese story. *J. Internet Commer.* **2014**, *13*, 194–210. [\[CrossRef\]](#)
42. Walsh, G.; Gwinner, K.P.; Swanson, S.R. What makes mavens tick? Exploring the motives of market mavens' initiation of information diffusion. *J. Consum. Mark.* **2004**, *21*, 109–122. [\[CrossRef\]](#)
43. Sudbury, L.; Jones, J. The British market maven: An altruistic provider of marketplace information. In Proceedings of the Academy of Marketing Conference, Coventry, UK, 6–8 July 2010.
44. Ross, C.; Orr, E.S.; Sisic, M.; Arseneault, J.M.; Simmering, M.G.; Orr, R.R. Personality and motivations associated with Facebook use. *Comput. Hum. Behav.* **2009**, *25*, 578–586. [\[CrossRef\]](#)
45. Singh, A.K.; Singh, A. Does personality predict organizational citizenship behavior among managerial personnel. *J. Indian Acad. Appl. Psychol.* **2009**, *35*, 291–298.
46. Turkyilmaz, C.A.; Erdem, S.; Uslu, A. The effects of personality traits and website quality on online impulse buying. *Procedia Soc. Behav. Sci.* **2015**, *175*, 98–105. [\[CrossRef\]](#)
47. Dinesen, P.T.; Nørgaard, A.S.; Klemmensen, R. The Civic Personality: Personality and Democratic Citizenship. *Political Stud.* **2014**, *62*, 134–152. [\[CrossRef\]](#)
48. Reinecke Flynn, L.; Goldsmith, R.E. Filling some gaps in market mavenism research. *J. Consum. Behav.* **2016**, *16*, 121–129. [\[CrossRef\]](#)
49. Costa, P.T., Jr.; McCrae, R.R. The Revised NEO Personality Inventory (NEO-PI-R). In *The Sage Handbook of Personality Theory and Assessment, Personality Measurement and Testing*; Boyle, G.J., Matthews, G., Saklofske, D.H., Eds.; Sage Publications Inc.: Thousand Oaks, CA, USA, 2008; Volume 2, pp. 179–198.
50. Walsh, G.; Mitchell, V.-W. Identifying, segmenting and profiling online communicators in an internet music context. *Int. J. Internet Mark. Advert.* **2010**, *6*, 41–64. [\[CrossRef\]](#)
51. Zurawicki, L. *Neuromarketing: Exploring the Brain of the Consumer*; Springer: Berlin/Heidelberg, Germany, 2010.
52. Malhotra, S.; Reus, T.H.; Zhu, P.; Roelofsen, E.M. The acquisitive nature of extraverted CEOs. *Adm. Sci. Q.* **2018**, *63*, 370–408. [\[CrossRef\]](#)
53. Ekinci, Y.; Dawes, P.L. Consumer Perceptions of Frontline Service Employee Personality Traits, Interaction Quality, and Consumer Satisfaction. *Serv. Ind. J.* **2009**, *29*, 503–521. [\[CrossRef\]](#)
54. McCrae, R.R.; Costa, P.T. Empirical and theoretical status of the five-factor model of personality traits. In *The SAGE Handbook of Personality Theory and Assessment*; Sage: Thousand Oaks, CA, USA, 2008; Volume 1, pp. 273–294.
55. Furukawa, T.; Sarason, I.G.; Sarason, B.R. Social Support and Adjustment to a Novel Social Environment. *Int. J. Soc. Psychiatry* **1998**, *44*, 56–70. [\[CrossRef\]](#)

56. Kalish, Y.; Robins, G. Psychological predispositions and network structure: The relationship between individual predispositions, structural holes and network closure. *Soc. Netw.* **2006**, *28*, 56–84. [\[CrossRef\]](#)
57. Chen, X.; Pan, Y.; Guo, B. The influence of personality traits and social networks on the self-disclosure behavior of social network site users. *Internet Res.* **2016**, *26*, 566–586. [\[CrossRef\]](#)
58. Goldsmith, R.E.; Horowitz, D. Measuring Motivations for Online Opinion Seeking. *J. Interact. Advert.* **2006**, *6*, 2–14. [\[CrossRef\]](#)
59. Lampel, J.; Bhalla, A. The role of status seeking in online communities: Giving the gift of experience. *J. Comput. Mediat. Commun.* **2007**, *12*, 434–455. [\[CrossRef\]](#)
60. Kollock, P. The economies of online cooperation: Gifts and Public Goods in Cyberspace. In *Communities in Cyberspace*; Smith, M.A., Kollock, P., Eds.; Routledge: London, UK, 1999; pp. 220–239.
61. Caliskan, A. Applying the Right Relationship Marketing Strategy through Big Five Personality Traits. *J. Relatsh. Mark.* **2019**, *18*, 196–215. [\[CrossRef\]](#)
62. Watson, D.C. Materialism: Profiles of agreeableness and neuroticism. *Personal. Individ. Differ.* **2014**, *56*, 197–200. [\[CrossRef\]](#)
63. Gupta, A.; Nadkarni, S.; Mariam, M. Dispositional sources of managerial discretion: CEO ideology, CEO personality, and firm strategies. *Adm. Sci. Q.* **2018**, *64*, 855–893. [\[CrossRef\]](#)
64. Belch, M.A.; Krentler, K.A.; Willis-Flurry, L.A. Teen internet mavens: Influence in family decision making. *J. Bus. Res.* **2005**, *58*, 569–575. [\[CrossRef\]](#)
65. Erdheim, J.; Wang, M.; Zickar, M.J. Linking the Big Five Personality Constructs to Organizational Commitment. *Personal. Individ. Differ.* **2006**, *41*, 959–970. [\[CrossRef\]](#)
66. McCrae, R.R.; Costa, P.T., Jr. Personality trait structure as a human universal. *Am. Psychol.* **1997**, *52*, 509. [\[CrossRef\]](#)
67. Baumgartner, H.; Steenkamp, J.-B.E. Exploratory Consumer Buying Behavior: Conceptualization and Measurement. *Int. J. Res. Mark.* **1996**, *13*, 121–137. [\[CrossRef\]](#)
68. Moore, K.; McElroy, J.C. The influence of personality on Facebook usage, wall postings, and regret. *Comput. Hum. Behav.* **2012**, *28*, 267–274. [\[CrossRef\]](#)
69. Ruvio, A.; Shoham, A. Innovativeness, exploratory behavior, market mavenship, and opinion leadership: An empirical examination in the Asian context. *Psychol. Mark.* **2007**, *24*, 703–722. [\[CrossRef\]](#)
70. Garrett, A.; Straker, K.; Wrigley, C. Digital Channels for Building Collaborative Consumption Communities. *J. Res. Interact. Mark.* **2017**, *11*, 160–184. [\[CrossRef\]](#)
71. Darley, W.; Lim, J.-S. Mavenism and e-maven propensity: Antecedents, mediators and transferability. *J. Res. Interact. Mark.* **2018**, *12*, 293–308. [\[CrossRef\]](#)
72. Barnes, S.J.; Pressey, A.D. Cyber-mavens and online flow experiences: Evidence from virtual worlds. *Technol. Forecast. Soc. Chang.* **2016**, *111*, 285–296. [\[CrossRef\]](#)
73. Forsyth, J.E.; Lavoie, J.; McGuire, T. Managing Expectations for Value. *Mckinsey Q.* **2000**, *4*, 12–19.
74. Belch, G.E.; Belch, M.A. *Advertising and Promotion: An Integrated Marketing Communications Perspective 6th*; McGraw-Hill: New York, NY, USA, 2004.
75. Awais, M.; Samin, T.; Gulzar, M.A.; Aljuaid, H.; Ahmad, M.; Mazzara, M. User Acceptance of HUMP-Model: The Role of E-Mavenism and Polychronicity. *IEEE Access* **2019**, *7*, 174972–174985. [\[CrossRef\]](#)
76. Goldsmith, R.E.; Flynn, L.R. The Etiology of Frugal Spending: A Partial Replication and Extension. *Compr. Psychol.* **2015**, *4*, 9–20. [\[CrossRef\]](#)
77. Tatzel, M. Value seekers, big spenders, non-spenders, and experiencers: Consumption, personality, and well-being. In *Consumption and Well-Being in the Material World*; Tatzel, M., Ed.; Springer: Berlin/Heidelberg, Germany, 2014; pp. 75–108.
78. Roccas, S.; Sagiv, L.; Schwartz, S.H.; Knafo, A. The big five personality factors and personal values. *Personal. Soc. Psychol. Bull.* **2002**, *28*, 789–801. [\[CrossRef\]](#)
79. Bardhi, F.; Arnould, E.J. Thrift Shopping: Combining Utilitarian Thrift and Hedonic Treat Benefits. *J. Consum. Behav. Int. Res. Rev.* **2005**, *4*, 223–233. [\[CrossRef\]](#)
80. Urbany, J.E.; Dickson, P.R.; Kalapurakal, R. Price search in the retail grocery market. *J. Mark.* **1996**, *60*, 91–104. [\[CrossRef\]](#)
81. Dwyer, C.; Hiltz, S.R.; Widmeyer, G. Understanding Development and Usage of Social Networking Sites: The Social Software Performance Model. In *Proceedings of the IEEE 2008-41st Annual Hawaii International Conference on System Sciences (HICSS)*, Waikoloa, HI, USA, 7–10 January 2008; p. 292. [\[CrossRef\]](#)

82. Tapia-Fonllem, C.; Corral-Verdugo, V.; Fraijo-Sing, B.; Durón-Ramos, M. Assessing sustainable behavior and its correlates: A measure of pro-ecological, frugal, altruistic and equitable actions. *Sustainability* **2013**, *5*, 711–723. [\[CrossRef\]](#)
83. Rose, P.; Smith, S.T.; Segrist, D.J. Too cheap to chug: Frugality as a buffer against college-student drinking. *J. Consum. Behav.* **2010**, *9*, 228–238. [\[CrossRef\]](#)
84. Albinsson, P.A.; Wolf, M.; Kopf, D.A. Anti-Consumption in East Germany: Consumer Resistance to Hyperconsumption. *J. Consum. Behav.* **2010**, *9*, 412–425. [\[CrossRef\]](#)
85. Rick, S.I.; Cryder, C.E.; Loewenstein, G. Tightwads and spendthrifts. *J. Consum. Res.* **2007**, *34*, 767–782. [\[CrossRef\]](#)
86. Birkner, C. Thrifty Brits: Economic Austerity in the UK Has given Rise to a More Frugal British Consumer. *Mark. News*, 8 August 2013.
87. Egol, M.; Clyde, A.; Rangan, K.; Sanderson, R. *The New Consumer Frugality: Adapting to the Enduring Shift in US Consumer Spending and Behavior*; Booz & Company: New York, NY, USA, 2010.
88. Wells, W.D.; Tigert, D.J.; Activities, I. Activities, interests and opinions. *J. Advert. Res.* **1971**, *11*, 27–35.
89. Shaw, D.; Moraes, C. Voluntary simplicity: An exploration of market interactions. *Int. J. Consum. Stud.* **2009**, *33*, 215–223. [\[CrossRef\]](#)
90. Pepper, M.; Jackson, T.; Uzzell, D. An examination of the values that motivate socially conscious and frugal consumer behaviours. *Int. J. Consum. Stud.* **2009**, *33*, 126–136. [\[CrossRef\]](#)
91. Pinto, D.C.; Nique, W.M.; Añaña, E.d.S.; Herter, M.M. Green consumer values: How do personal values influence environmentally responsible water consumption? *Int. J. Consum. Stud.* **2011**, *35*, 122–131. [\[CrossRef\]](#)
92. Newholm, T.; Shaw, D. Studying the ethical consumer: A review of research. *J. Consum. Behav. Int. Res. Rev.* **2007**, *6*, 253–270. [\[CrossRef\]](#)
93. Evans, D. Thrifty, Green or Frugal: Reflections on Sustainable Consumption in a Changing Economic Climate. *Geoforum* **2011**, *42*, 550–557. [\[CrossRef\]](#)
94. Maruchek, A.; Greis, N.; Mena, C.; Cai, L. Product safety and security in the global supply chain: Issues, challenges and research opportunities. *J. Oper. Manag.* **2011**, *29*, 707–720. [\[CrossRef\]](#)
95. Meise, J.N.; Rudolph, T.; Kenning, P.; Phillips, D.M. Feed them facts: Value perceptions and consumer use of sustainability-related product information. *J. Retail. Consum. Serv.* **2014**, *21*, 510–519. [\[CrossRef\]](#)
96. Owusu, V.; Owusu Anifori, M. Consumer willingness to pay a premium for organic fruit and vegetable in Ghana. *Int. Food Agribus. Manag. Rev.* **2013**, *16*, 67–86. [\[CrossRef\]](#)
97. Xu, P.; Zeng, Y.; Fong, Q.; Lone, T.; Liu, Y. Chinese consumers' willingness to pay for green-and eco-labeled seafood. *Food Control* **2012**, *28*, 74–82. [\[CrossRef\]](#)
98. Jacobsen, E.; Dulsrud, A. Will consumers save the world? The framing of political consumerism. *J. Agric. Environ. Ethics* **2007**, *20*, 469–482. [\[CrossRef\]](#)
99. Goldsmith, R.E.; Flynn, L.R.; Clark, R.A. The Etiology of the Frugal Consumer. *J. Retail. Consum. Serv.* **2014**, *21*, 175–184. [\[CrossRef\]](#)
100. Rao, B.C. Advances in science and technology through frugality. *IEEE Eng. Manag. Rev.* **2017**, *45*, 32–38. [\[CrossRef\]](#)
101. Wiedmann, K.-P.; Walsh, G.; Mitchell, V.-W. The Mannmaven: An agent for diffusing market information. *J. Mark. Commun.* **2001**, *7*, 195–212. [\[CrossRef\]](#)
102. Huber, M.; Kowalski, S.; Nohlberg, M.; Tjoa, S. Towards Automating Social Engineering Using Social Networking Sites. In Proceedings of the IEEE International Conference on Computational Science and Engineering, Vancouver, BC, Canada, 29–31 August 2009; pp. 117–124.
103. Gupta, S.; Ogden, D.T. To Buy or Not to Buy? A Social Dilemma Perspective on Green Buying. *J. Consum. Mark.* **2009**, *26*, 376–391. [\[CrossRef\]](#)
104. Thøgersen, J. Unsustainable Consumption: Basic Causes and Implications for Policy. *Eur. Psychol.* **2014**, *19*, 84–95. [\[CrossRef\]](#)
105. Rockström, J.; Steffen, W.L.; Noone, K.; Persson, Å.; Chapin, F.S., III; Lambin, E.; Lenton, T.M.; Scheffer, M.; Folke, C.; Schellnhuber, H.J. Planetary Boundaries: Exploring the Safe Operating Space for Humanity. *Ecol. Soc.* **2009**, *14*, 32. Available online: <http://www.ecologyandsociety.org/vol14/iss2/art32/> (accessed on 1 January 2009). [\[CrossRef\]](#)

106. Liu, Y.; Qu, Y.; Lei, Z.; Jia, H. Understanding the evolution of sustainable consumption research. *Sustain. Dev.* **2017**, *25*, 414–430. [[CrossRef](#)]
107. Geiger, S.M.; Fischer, D.; Schrader, U. Measuring What Matters in Sustainable Consumption: An Integrative Framework for the Selection of Relevant Behaviors. *Sustain. Dev.* **2018**, *26*, 18–33. [[CrossRef](#)]
108. Ma, Y.; Hardy, A.; Ooi, C.S. Researching Chinese tourists on the move. *J. China Tour. Res.* **2019**, 1–16. [[CrossRef](#)]
109. Kutia, S.; Chauhdary, S.H.; Iwendi, C.; Liu, L.; Yong, W.; Bashir, A.K. Socio-Technological factors affecting user's adoption of eHealth functionalities: A case study of China and Ukraine eHealth systems. *IEEE Access* **2019**, *7*, 90777–90788. [[CrossRef](#)]
110. Hair, J.; Anderson, R.; Tatham, R.; Black, W. *Multivariate Data Analysis with Readings*, 5th ed.; Prentice-Hall: Englewood Cliffs, NJ, USA, 1998.
111. Flynn, L.R.; Swilley, E. Resisting Change: Scale validation with a New, Short Measure of the BIG FIVE. *Proc. Assoc. Mark. Theory Pract.* **2007**, *16*. [[CrossRef](#)]
112. Figueroa-García, E.; García-Machado, J.; Pérez-Bustamante Yábar, D. Modeling the Social Factors that Determine Sustainable Consumption Behavior in the Community of Madrid. *Sustainability* **2018**, *10*, 2811. [[CrossRef](#)]
113. Quoquab, F.; Mohammad, J.; Sukari, N.N. A multiple-item scale for measuring “sustainable consumption behaviour” construct: Development and psychometric evaluation. *Asia Pac. J. Mark. Logist.* **2019**, *31*, 791–816. [[CrossRef](#)]
114. Brislin, R. *Understanding Culture's Influence on Behavior*; Harcourt Brace Jovanovich College Publishers: San Diego, CA, USA, 1993. [[CrossRef](#)]
115. Anderson, J.C.; Gerbing, D.W. Structural equation modeling in practice: A review and recommended two-step approach. *Psychol. Bull.* **1988**, *103*, 411. [[CrossRef](#)]
116. Bagozzi, R.P.; Yi, Y. Specification, Evaluation, and Interpretation of Structural Equation Models. *J. Acad. Mark. Sci.* **2012**, *40*, 8–34. [[CrossRef](#)]
117. Hart, M.; Porter, G. The impact of cognitive and other factors on the perceived usefulness of OLAP. *J. Comput. Inf. Syst.* **2004**, *45*, 47–56. [[CrossRef](#)]
118. John, O.P.; Naumann, L.P.; Soto, C.J. Paradigm shift to the integrative big five trait taxonomy. In *Handbook of Personality: Theory and Research*, 3rd ed.; John, O.P., Robins, R.W., Pervin, L.A., Eds.; Guilford: New York, NY, USA, 2008; pp. 114–158.
119. Block, J. The five-factor framing of personality and beyond: Some ruminations. *Psychol. Inq.* **2010**, *21*, 2–25. [[CrossRef](#)]
120. Goldberg, L.R. An Alternative Description of Personality: The BIG FIVE Factor Structure. *J. Personal. Soc. Psychol.* **1990**, *59*, 1216. [[CrossRef](#)]
121. Wang, W.; Hsieh, P.; Yen, H.R. Engaging customers in value co-creation: The emergence of customer readiness. In Proceedings of the 2011 International Joint Conference on Service Sciences, Taipei, Taiwan, 25–27 May 2011; pp. 135–139.
122. Sudbury-Riley, L. The baby boomer market maven in the United Kingdom: An experienced diffuser of marketplace information. *J. Mark. Manag.* **2016**, *32*, 716–749. [[CrossRef](#)]
123. Rezaei, S. Dragging market mavens to promote apps repatronage intention: The forgotten market segment. *J. Promot. Manag.* **2018**, *24*, 511–532. [[CrossRef](#)]
124. Zhang, J.; Lee, W.-N. Testing the concepts of market mavenism and opinion leadership in China. *Am. J. Bus.* **2015**, *30*, 178–195. [[CrossRef](#)]
125. Lončarić, D.; Perišić Prodan, M.; Dlačić, J. The role of market mavens in co-creating tourist experiences and increasing loyalty to service providers. *Econ. Res. Ekon. Istraživanja* **2019**, *32*, 2252–2268.
126. Calder, B.J.; Phillips, L.W.; Tybout, A.M. Designing research for application. *J. Consum. Res.* **1981**, *8*, 197–207. [[CrossRef](#)]
127. Phipps, M.; Ozanne, L.K.; Luchs, M.G.; Subrahmanyam, S.; Kapitan, S.; Catlin, J.R.; Gau, R.; Naylor, R.W.; Rose, R.L.; Simpson, B. Understanding the inherent complexity of sustainable consumption: A social cognitive framework. *J. Bus. Res.* **2013**, *66*, 1227–1234. [[CrossRef](#)]
128. Luchs, M.; Naylor, R.W.; Rose, R.L.; Catlin, J.R.; Gau, R.; Kapitan, S.; Mish, J.; Ozanne, L.; Phipps, M.; Simpson, B. Toward a Sustainable Marketplace: Expanding Options and Benefits for Consumers. *J. Res. Consum.* **2011**, *19*, 1–12.

129. Jackson, T.; Michaelis, L. *Policies for Sustainable Consumption*; A Report to the Sustainable Development Commission; Sustainable Development Commission: London, UK, 2003.
130. Berger, J. Word of Mouth and Interpersonal Communication: A Review and Directions for Future Research. *J. Consum. Psychol.* **2014**, *24*, 586–607. [[CrossRef](#)]
131. Haenlein, M.; Libai, B. Seeding, Referral, and Recommendation: Creating Profitable Word-of-Mouth Programs. *Calif. Manag. Rev.* **2017**, *59*, 68–91. [[CrossRef](#)]
132. Mowen, J.C.; Park, S.; Zablah, A. Toward a theory of motivation and personality with application to word-of-mouth communications. *J. Bus. Res.* **2007**, *60*, 590–596. [[CrossRef](#)]
133. Wien, A.H.; Olsen, S.O. Producing word of mouth—a matter of self-confidence? Investigating a dual effect of consumer self-confidence on WOM. *Australas. Mark. J.* **2017**, *25*, 38–45. [[CrossRef](#)]
134. Alexandrov, A.; Lilly, B.; Babakus, E. The effects of social-and self-motives on the intentions to share positive and negative word of mouth. *J. Acad. Mark. Sci.* **2013**, *41*, 531–546. [[CrossRef](#)]
135. Baker, A.M.; Donthu, N.; Kumar, V. Investigating How Word-of-Mouth Conversations about Brands Influence Purchase and Retransmission Intentions. *J. Mark. Res.* **2016**, *53*, 225–239. [[CrossRef](#)]
136. Goldsmith, R.E. Brand Engagement and Brand Loyalty. In *Branding and Sustainable Competitive Advantage: Building Virtual Presence*; IGI Global: London, UK, 2012; pp. 121–135.
137. Ocampo, S.; Perdomo-Ortiz, J.; Castaño, L. The concept of socially responsible consumption and its measurement. A review of the literature. *Manag. Stud.* **2014**, *30*, 287–300.
138. Awais, M.; Samin, T.; Gulzar, M.A.; Hwang, J. The Sustainable Development of the China Pakistan Economic Corridor: Synergy among Economic, Social, and Environmental Sustainability. *Sustainability* **2019**, *11*, 7044. [[CrossRef](#)]



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