



The Effect of Personalization on Consumer Behaviors

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Abstract. Information is the cornerstone of decision-making process, as consumers' choice of a product or service mainly based on the information they receive or collect. The internet has flooded and overwhelmed consumers with tons of miscellaneous information, causing information overload. Personalization is developed as an ideal solution to this problem by delivering messages to specialized individuals, in order to improve communication efficiency. But it has become an essential strategic tool for companies and organizations to shape consumer behaviors. This paper reviews previous studies in this field, providing comprehensive overview of personalization, consumer behaviors, and the effect of personalization on consumer behaviors.

Keywords: Information overload · Personalization · Consumer behavior · Recommendation · Privacy · Marketing

1 Introduction

There is no denial that we are in the middle of information explosion era. According to British technical forecast specialist James Martin, in 19th century, the multiplication cycle of human knowledge is 50 years. By the first half of the 20th century, it became 10 years, and then 5 years in 1970s, 3 years in 1980s [1]. From Data Age 2025, global data loop is predicted by IDC to grow from 33ZB in 2018 to 175ZB in 2025, indicating an exponential increase in the last decade [2]. “The technological developments of the last 50 years have made more information more available to more people than at any other time in human history” [3]. This phenomenon is majorly due to the wide application of Internet and development of modern communication and dissemination technologies. The quality of decisions of an individual correlates positively with the amount of information he or she receives—up to a certain point. If further information is provided beyond this optimal point, the performance of the individual will rapidly decline [4]. The information provided beyond this point will no longer be integrated into the decision-making process and information overload will be the result [5]. The burden

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of a heavy information load will confuse the individual, affect his or her ability to set priorities, and make prior information harder to recall [6]. Therefore, what the individuals need is a pre-selected information set, that would cut out irrelevant and useless data.

On the other side, for senders, whose goal is to deliver messages to customers and try to shape their behaviors, have difficulty finding target customers. Furthermore, they face the strategy change. Whatever information that reaches the customers first have higher probability to be perceived and accepted. In other words, the accessibility of an information is the key to customers' behavior manipulation [7]. Personalization, as a perfect solution for the problem above, developed rapidly at 20th century. Generally, personalization is defined as deliver the right things to the right person [8]. By considering what, how, and why using personalization, the definition is further developed as a process that tailoring of products and services based upon customers' personal and preference information to increase its personal relevance, making it easier to shape customers' behaviors and decisions, so as to improve customers' experience or increase vendors' profits.

Essentially, personalization can be interpreted as a way through which vendors persuade consumers to make purchase decisions. In that case, it is vital to learn about how consumers make decisions and what factors might be influential, that is when the study of consumer behavior come into use. Consumer behavior is generally defined as how an individual or group search, select, purchase, use and dispose goods or service. The beginning of research in this field can trace back to 1920s, and now it is relatively mature through a decade of development. Multiple models have been established, trying to explain consumer decision process, such as EKB model, Howard-Sheth model and Nicosia model. Specifically, scholars pay attention to the 5-step decision process (problem recognition, information searching, alternatives evaluation, choice and decision, post-purchase evaluation), and the factors that influence the process. In the past decades, personalization has been widely applied. Current literature has focused on the following four main categories: (1) recommendation in searching engines, electronic commerce and social media platforms (2) personalization for price, also called price discrimination [9] (3) personalization in bundling sales.

However, after making progress in implementing personalization techniques, it was people's concern that, does it really works? Therefore, researchers keep discovering the effect of personalization on customers' behaviors. Most studies show a positive outcome where it greatly improved customers' experience and brought mass increase in vendors' revenue. For example, Boudet et al. found that an increase of 5%–15% in revenue is directly attributed to successful implementation of personalization, with an improvement of 10%–30% in marketing efficiency within a single channel [7, 10]. In e-commerce field, many product categories have seen personalization as a positive factor contributing to consumer purchase decisions. Goldsmith argued that the development of marketing thought and practice reaches its peak with personalization, which is the most recent innovation as opposed to mass marketing, market segmentation, niche marketing, micromarketing, or mass customization [11]. But there are also researchers raise the opposite opinions. Some studies argue that although personalization is regarded as an important element of service delivery, research indicates that limited theoretical frameworks exist for personalized service delivery during pre-transactional phases [12].

Researchers also question the positive effect by introducing two difference concepts, actual and perceived personalization [13].

Another concern regarding the effect of personalization on consumers is the privacy issue. The whole personalization process is based on data generated by customers themselves, and the procedure of data processing is usually untransparent. Consumers who are unwilling to share their personal information due to privacy or security concerns will not be able to take advantage of the personalization features provided by retailers, and retailers may be unable to implement personalization. This is also described as privacy–personalization paradox. For example, potential customers may feel frightened by e-tailers' requests for sensitive information, such as social ID card number and credit card numbers, and this may ultimately hinder online transactions. In addition, consumers' future intentions to purchase online could be hindered by negative experiences related to privacy and security [14]. Using empirical studies, Milne and Boza have investigated how privacy concerns affect purchase behavior and decisions. Although efforts have been made to solve this problem, including implementing regulations or increasing transparency, the improvement seems insignificant [15, 16].

The literature on personalization kept developing quickly. However, there are conflicts or different opinions regarding the effect of personalization on consumer behaviors. Few studies have offered a summary of this topic. Thus, the current study will provide a comprehensive overview of the effectiveness of personalization, consolidating the intellectual structure of the field and pointing out the future directions of studies in this area. First part of the paper introduces the definition of personalization and its applications. Next, we interpret the concept of consumer behavior, along with its historical studies, conceptual models and influencing factors. Finally, in the third part, we discuss the effect of personalization on consumer behaviors.

2 Personalization

2.1 Definition of Personalization

Personalization has already applied to many fields and each of them has different definition of personalization. However, personalization is basically largely driven by the expected benefits of one-to-one marketing and customer relationship management. Marketers via their strategy which is similar to direct marketing to meet customers' and avoid spam reactions. Not only commercial context, politicians are also focusing on using personalization to improve their campaigns. Modern personalization has many kinds of meanings which will sometimes confuse marketers. In order to specialize many kinds of personalization, the paper "What is personalization? A conceptual framework" by Jari Vesänen separate it into 5 different types of personalization [17]. Segment marketing, adaptive personalization, cosmetic personalization, transparent personalization and collaborative customization. Among these, cosmetic personalization and collaborative customization have the highest customer interaction, and collaborative customization has the highest learning opportunity. And all these personalization are used in different companies and different occasions. Additionally, the Personalization Consortium defines it as a using of technology and customer information to tailor electronic commerce interactions between a business and each individual customer, however, the first

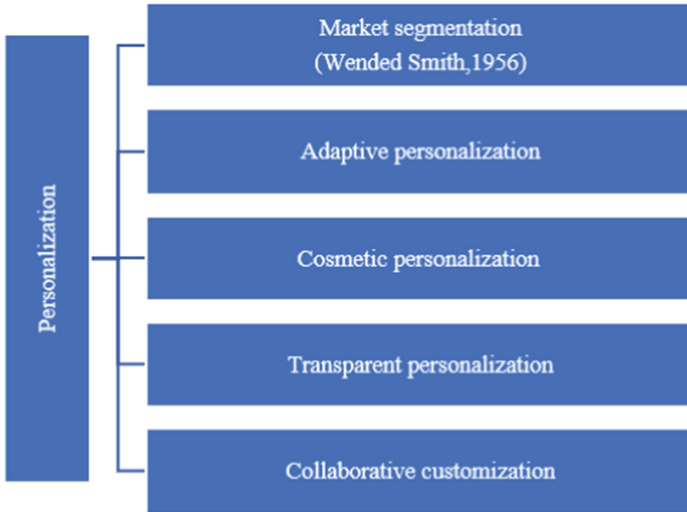


Fig. 1. Personalization types

personalized marketing letter is just a letter with a specialized name of recipient such as “Dear Smith” [18]. This can be a result of the evolving internet, so the definition of personalization will certainly change over time (see Fig. 1).

2.2 Personalization and Customization

In Jari’s classification, there are personalization and customization. For these two different types, many different arguments were proposed. Peppers et al. proposed that sometimes it is difficult to separate between concepts since: “a customized site can provide personalized content”. Customization is part of the personalization [19]. In 2000, Hanson proposed a similar argument that it is not important to distinguish between these two concepts [20]. However, Roberts offered a totally opposite opinion. His paper supports that it is important to distinguish between personalization and customization. Customization is a form of personalization which is done by the customer. Customization is a more in-depth individualization than personalization [21]. COSMOPlat, an industrial internet platform built by Haier, is a typical example of a personalized business model that integrates system integrators, independent software providers, technology partners, solution providers and channel distributors. Users can put forward their demands through smart devices (e.g. smartphones or tablets). After a certain scale of demand is formed, COSMOPlat can realize product development and manufacturing through the nine connected factories, thus producing personalized products that meet users’ needs.

2.3 Applications of Personalization

No matter what kinds of personalization occupy the greatest part of the marketing, they both created many applications. Basically, there are Recommendation, Pricing, and Bundling.

Recommendation

A recommendation system is a machine learning or artificial intelligence (AI) algorithm that makes suggestions or recommends more products to customers using big data. These may be determined using a variety of parameters, such as previous purchases, search history, demographic data, and other elements. In order to help people find products and services they might not have found on their own, recommender systems are quite helpful. Although there are many different recommender systems and methods, the majority of them fall into three general groups: collaborative filtering, content filtering, and context filtering. Collaborative filtering algorithms recommend products based on user preference data (this is the collaborative aspect); this is the filtering part. With the help of previous encounters between users and objects and the similarity of user preference behavior, recommender systems can learn to anticipate future interactions. Contrarily, content filtering suggests other products that are comparable to the user's choices based on the characteristics or features of an item (this is the content part). Based on the closeness of an item's and a user's traits, this method predicts the likelihood of a new interaction given knowledge of the user and the items they have previously interacted with. Users' contextual information is taken into account during the suggestion process by context filtering. At the NVIDIA GTC, Netflix discussed how to improve suggestions by presenting them as contextual sequence predictions. This method forecasts the likelihood of the subsequent action using a series of contextual user activities and the present context [22].

Pricing

Then comes pricing method. Oxenfeldt defines pricing methods as explicit steps or procedures by which a firm reaches a pricing decision [23]. A pricing method is a method of calculating and determining the price of a good or service by taking into account all the factors that may influence the pricing strategy. Factors can include the product or service, its life cycle, market competition and the target audience. Choosing between pricing methods is not easy, but it is a mistake that no business can afford to make. For some companies, making a pricing approach greatly affects the company's image, financial position, products and so on. There are four broad approaches to pricing; cost-plus pricing, competitor-based pricing, value-based pricing and demand-based pricing. Cost-plus pricing is one of the most widely used methods for determining prices. It works on the principle that your company makes something and then tries to sell it at a price higher than the cost of making it. It is simple, quick and widely representative. Competitor-based pricing methods offer simplicity, accuracy and relatively low risk. Value-based pricing involves basing the price of a product or service on how much the target consumer thinks it is worth. Value-based pricing involves basing the price of a product or service on how much the target consumer thinks it is worth. The demand-based

pricing approach uses current levels of general market demand, rather than customer-specific research, to determine pricing strategies. It is the most responsive of the four approaches we have looked at.

Bundling

Bundling is a form of symbiotic marketing strategy in which two or more brands or companies cooperate in the promotion process so as to expand their influence. In general, bundles are divided into two styles based on the creator: seller-determined bundles are formed based on constraints in the back office by the retailer. In customized bundle, customers have access to all products and choose products in the bundle according to their preferences. There are two main decisions regarding the bundling strategy determined by the seller: (1) Which products to choose as part of the bundle package and (2) What should be the price of the bundling the components products in the bundle. The main issues in analyzing these decisions are the heterogeneity of consumer preference towards different products, the relevance of component products evaluations, the complementarity property between different products, and the substitutability of products. After the customer receives the bundler, we can classify the bundle into two types according to the customer's right to choose: pure bundling strategy, in which the customer only has the authority to purchase the entire bundle, and mixed bundling, in which customers can choose to purchase the entire bundle or individual components separately in the bundle at their original price. The mixed bundling strategy is certainly more flexible but also more complex forms to make decisions. Xue et al. examined the personalized bundle pricing strategies of leading information technology (IT) service providers. Ettl et al. consider a bundle recommendation and pricing model that simultaneously selects the products with the highest purchase potential for consumers based on their preferences and stock levels and gives them the most satisfactory bundle price. This literature is highly relevant to our bundle research. Chen et al. investigates the availability of mixed bundling when there exists discounted valuation for the component products in the bundle. Using the game-theory method, Chen et al. reported that valuation discounts play a key role in retailers' bundling decisions. Guo et al. considered the availability of bundling strategy in the business format of retailer platforms. This business format is very popular in real industrial practice, such as Amazon, Taobao, Booking.com, and Expedia. Unlike traditional reselling format, the supplier determines the retail price of individual products.

3 Consumer Behavior

3.1 Definitions of Consumer Behavior

The APA Dictionary of Psychology defines consumer behavior as “the acts of individuals or groups in obtaining, consuming, and disposing of economic goods and services, including the decision processes that precede and follow these acts.” [24]. In fact, there are many scholars gave other definitions. The following Table 1 provides several examples.

From the table 1 we can conclude that the definitions of consumer behavior for the past 50 years are similar in essence, but became more and more precise as relevant research developed. Most of the definitions consist of three components: subject,

Table 1. Definition of Consumer Behaviors

Author(s)	Definition of Consumer Behaviors
Enis (1974) [25]	A process, which through inputs and their use though process and actions leads to satisfaction of needs and wants
Faison and Edmund (1977) [26]	The assumption that people have series of needs which lead to drive state.
Engel, et al. (1986) [27]	Those acts of individuals directly involved in obtaining, using, and disposing of economic goods and services, including the decision processes that precede and determine these acts
James F. Engel, Roger D. (1990) [28]	Consumer behavior refers to “the mental and emotional processes and the observable behavior of consumers during searching for, purchasing and post consumption of a product or service.
Solomon et al. (1995) [29]	Consumer is the study “of the processes involved when individuals or groups select, purchase, use, or dispose of products, services, ideas, or experiences to satisfy needs and desires”
Schiffman and Kanuk (2000) [30]	Behavior that consumers express when they select and purchase the products or services using their available resources in order to satisfy their needs and desires.
Schiffman (2007) [31]	“The behavior that consumers display in searching for, purchasing, using, evaluating, and disposing of products and services that they expect will satisfy their needs”
Stallworth (2008) [32]	A set of activities which involves the purchase and use of goods and services which resulted from the customers’ emotional and mental needs and behavioral responses.
Kumar (2010) [33]	Consumer buying behavior “refers to the buying behavior of final consumers, both individuals and households, who buy goods and services for personal consumption”
Kotler and Keller (2011) [34]	“Consumer buying behavior is the study of the ways of buying and disposing of goods, services, ideas or experiences by the individuals, groups and organizations in order to satisfy their needs and wants.”

(continued)

Table 1. (continued)

Author(s)	Definition of Consumer Behaviors
Kardes, F., Cronley, M. and Cline, T. (2011) [35]	“Consumer behavior entails all activities associated with the purchase, use and disposal of goods and services, including the consumer’s emotional, mental and behavioral responses that precede or follow these activities.”
American Marketing Association (AMA) [36]	Consumer behavior as “The dynamic interaction of cognition, behavior and environmental events by which human beings conduct the exchange aspect of their lives.”
Charles Doyle (Oxford A Dictionary of Marketing) (2016) [37]	Consumer behavior is a process through which an identifiable group of consumers actually make buying decisions.
Business Dictionary (2019) [38]	The term consumer can refer “an end user, and not necessarily a purchaser, in the distribution chain of a good or service.”

activities, object, motivations. (1) Subjects refers to consumers, which in most cases can either be individuals, groups or organizations. Some believed that only people who make the actual purchase could be considered consumers, whereas others referred to general end users. (2) Activities consist of searching, selecting, purchasing, using, disposing. Some scholars took information searching and post-consumption evaluation into consideration. To be more comprehensive, some further included the emotional, mental and behavioral responses that precede or follow the above activities. (3) Objects refers to the goods and services, while some researchers had ideas or experiences added. (4) Motivations usually expressed as “satisfying personal needs and wants”.

3.2 Historical Studies of Consumer Behavior

Study of consumer behavior based largely on motivation research in early years. Motivation research focus majorly on answering why a buyer chooses to purchase a product or not. The motivation research started from late 1920s, represented by the work of Paul F. Lazarsfeld and his colleagues [39]. It “represents the introduction of new concepts taken from the entire range of social sciences, particularly clinical psychology, sociology, and anthropology, into consumer or market research” [40]. Motivation research deepened people’s understanding on consumers, and it gradually developed into a distinct field of study called consumer behavior during the 1960s. According to Pachauri and Moneesha, studies of consumer behavior later generated two broad paradigms, the positivist and the non-positivist. The positivist paradigm, though emerged earlier than the non-positivist but still in the dominant place, encompassing the economic, behavioral, cognitive, motivational/trait/attitudinal, and situational perspectives. It emphasizes that objective truth that can be discovered by science. Conversely, the non-positivist paradigms criticize the former to “overemphasize the rational view and the ideology of a homogenous social

culture and thereby denies the complex social and cultural world in which consumers live.” The positivist and non-positivist paradigm have different aims. The former is to advance the goals of marketing practice while the latter is to gain better understanding of consumer themselves [41]. Till today, consumer behavior has become an indispensable sub-discipline within marketing research. Especially, manufacturers and service providers should prioritize this since it gives them a competitive edge in establishing strategies to effectively deliver the correct products and services to the proper audience of customers using the knowledge of consumer behavior [34].

3.3 Consumer Behavior Models and Decision Process

Scholars have generated multiple models, trying to figure out the process of consumer decision making. The EKB Model (Engel Kollat Blackwell Model) was a representative one [42]. It was first proposed by Engel, Kollat and Blackwell in 1968. Fig. 2 shows the basic structure of EKB model.

EKB model divided the consumer buying behavior into three statuses. Present Situation, which is the consumer status (physical, psychological, financial, etc.) in current stage. Desired State, where the consumers want to be in the future. And the pathway for movement from one state to another, including the following five components: information inputs, information processing, decision process, decision variables and external factors. However, the most contributing part of this model is the elucidation of decision process, which consists of the following five stages:

Problem Recognition: this is the stage where consumers become aware of their wants and needs, or in other words, the difference between their present situation and desired stage. There are multiple ways to evoke a problem recognition process, including

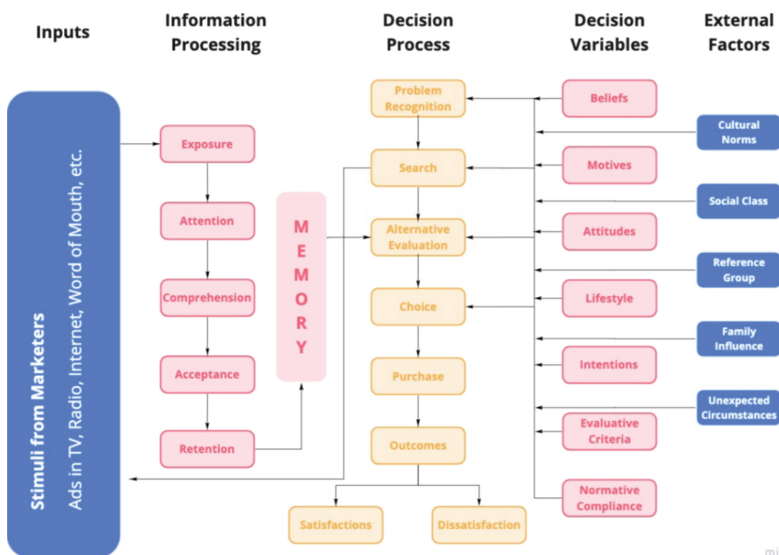


Fig. 2. EKB Model [43]

natural depletion, regular purchase, complementary products, marketer-induced needs, new products, etc. [44–46].

Information Search: researchers have defined five “sets” of brands during the information searching process. They are the “evoke set”, referring to those brands that consumers come up with or recognize from their memories before any information searching [47]. The “inept set” and “inert set” is a list of brands that consumers have indifferent feelings or even unfavorable. The “consideration set” is a limited number of selections that correspond to practical purchase options. And finally, they generate an ultimate “choice set” that contains several brands with high competitiveness [48–50].

Evaluation of Alternatives: the criteria of evaluation can be divided into two parts, functional benefits and psycho-social benefits [51]. The former related to tangible consequences of products or services, while the latter concerns emotional or cognitive influences.

Choice and Purchase Decisions: final decision that a consumer makes depends on their needs and wants, but it can also be influenced by others like friends, marketers or the society [52].

Outcome: the consumer may be satisfied or unsatisfied towards the products or services.

Besides EKB model, there are other models also contribute to this field, for example, Howard-Sheth model uses the concept of stimulus-response to explain consumers decision making behavior over a period of time [53]. Nicosia model looked into the link between the organization or firm and its consumers [54]. Other researchers also spent efforts to complete and improve those models. For instance, Khosla and Swati stated that a purchase intention after alternatives evaluation stage will not necessarily convert into an actual purchase decision, measured by sales conversion rate. There are also researchers like Foxall emphasized the importance of post-purchase evaluation, suggesting that it contains implications for future purchase patterns [55–57].

3.4 Factors Influencing Consumers Decision

Internal factors consist of following two categories: (1) Psychological factors like motivation, attitude, value, belief, perception and emotion. For instance, there are several theories related to motivation. The Maslow’s hierarchy ranks human needs into physiological needs (foods and water), safety needs (security), belongingness and love needs (friends and intimate relationship), esteem needs (other’s respect and self-respect), self-actualization needs (achieving one’s full potential) [58]. Fiske proposes five social motives: belonging, understanding, controlling, enhancing self and trusting others [59]. There are also studies concerning perception, which focus on the way individuals organize and interpret stimuli into meaningful understanding. (2) Demographic factors like age, income, lifestyles, gender, occupation and educational level. It also involves prior experience, as studies show that when consumers have prior experience, they are less motivated and exert less effort to look for information, but they are more efficient when processing new information. [52, 60, 61]. External factors include culture, subculture (religions, racial groups), social class, reference group (groups that have direct or indirect influence on consumers, such as families and friends) and so on. For instance, Hofstede

depicted culture into six dimensions, including power distance, uncertainty avoidance, individualism, masculinity, time orientation and indulgence [62].

3.5 Internet Consumer Behavior

According to Shun and Yunjie, online consumer behavior is different to offline behavior. They also argue that there are two types of consumer value in purchasing: product value and shopping value. The former does not differ between online and offline, since the products received are the same despite the different distribution channels. However, the shopping experience differ wildly. During online shopping, customers gain satisfaction from website navigation and the ease of selecting optimal choice, while during offline shopping, customers enjoy the environment of physical store, services from staffs and the ability to try the product in person [63]. Lewis divides online consumers into five categories: (1) Directed information-seekers, who searches for information about a specific product or service, but will not necessarily make actual purchases. (2) Undirected information seekers, who searches for information without an intention for purchasing goods. (3) Directed buyers, who go to the internet in order to buy a specific good or service. (4) Bargain hunters, who are sensitive to price and usually attracted by sale promotions or discounts. (5) Entertainment seekers, who are attracted by interactive online marketing activities [64]. Moreover, in contrast to physical purchasing, Wendy Moe asserted that it is challenging to anticipate actual buying, browsing, and searching behavior when consumers are shopping online. However, it can be resolved by looking at click patterns and frequency of visitation [65].

3.6 Other Research Focuses

Research efforts have been made in various detailed segment of consumer behavior. (1) Researchers looked into how the risk is perceived during buying process, including performance risk (whether the product or service will function well), financial risk (potential waste of money if the product or service did not perform well), safety risk (possible harm brought by improper functions), socio-psychological risk (others negative evaluation on the product or service) [66]. They also studied how consumers perceive these risks and manage to reduce them. (2) Impulse buying, referring to immediate purchase decisions without sufficient thinking or initial purchasing intention. It includes pure impulse buying, reminded impulse buying and planned impulse buying. It can be triggered by all kinds of marketing skills such as in-store commercials, products placed near the checkout counter, persuasion of salesmen and other sensory marketing. (3) Consumer decision styles, including quality-conscious, brand-conscious, price-conscious, hedonistic, novelty-conscious, habitual and so on. (4) Customer loyalty, dividing customers into four types: no loyalty, spurious loyalty, latent loyalty and loyalty. Researches also study how companies can cultivate and maintain customer loyalty. (5) Adoption of new products, brand-switching and channel-switching [67–69].

4 Conclusion

From the literature review conducted, it is clear that the domain of personalization is complicated and versatile. Although a fundamental appreciation of personalization is present, the notion is not as refined or reinforced as other concepts in marketing. Personalization can influence the decision to purchase. Where online visitors interact in a positive way with a given type of brand or website via an advertising format, it is highly probable that a purchase decision will be made. Nevertheless, people are concerned about permissible advertising formats, like getting information from a dialogue. Personalization is closely related to the concept of engagement and means tailoring parts or entire components within the marketing portfolio to the personal dimension. Personalization is more elaborate over customization because customization is performed on behalf of the customer on an automated basis by the member of the marketing staff, rather than a request for customization by the customer himself. An example of customization would be if a product was ordered by a customer from Dell with specific choices for a micro-computer, versus an example of pre-installing a Dell software package that it anticipates the user will prefer to purchase. This kind of differentiation is significant since it places the responsibility of identifying the proper level of customization on the marketer. As a result, it is important for marketers to be able to project exactly by what clients will desire. Typically, at the customer level, this is done by using analytical instruments to leverage information at the customer interface. Accordingly, personalization is tightly integrated with technology and applications.

Even though a number of Internet subscribers disagree with tailored targeting and are less likely to get involved, they still enjoy being shown ads that are personalized rather than objective. This means that they still prefer to view personalized instead of average ads. In the e-tailing environment, privacy and security issues are of significant interest to consumers. The personalization available in e-tailing involves consumers voluntarily or unwillingly supplying individual “up-front messages” for the container to enforce. When consumers resume disclosing personal information for privacy or security fears, they are unable to use the personalization capabilities that retailers offer, and it may not be possible for retailers to implement personalization. Consequently, personalization does not necessarily increase consumer purchase intent in an e-commerce environment in a positive way. That is why most e-tailers maintain privacy statements on their websites and publish security statements, and these documents include descriptions of the information about how they collect it, for what it will be used, and why the information is needed by them to alleviate the concerns of consumers regarding both privacy and security during transactions.

There are a number of challenges presented by personalization, including problems associated with getting access to information back from consumers. Protection of privacy basically refers to the issue of anonymity and access to hold control of an individual’s personal details. Sometimes consumers’ own private data are gathered upon their own admission, but subsequently disclosed to third parties in the absence of their agreement [70]. Privacy and security are critical for e-retailers seeking more customized services as requests from e-retailers asking for similarly responsive information as social security numbers, credit card numbers, residential addresses, police numbers, healthcare details and financial institution account numbers may scare prospective customers and impede

productive trading within online stores. In addition, adverse security and privacy-related experiences may reduce consumers' willingness to shop online in the future [15]. The other key aspect of information privacy concerns is the ramifications of a consumer's worries, as understanding the dimension of behavioral responses stemming from concerns about privacy can be equally important as understanding the antecedents and outcomes of such worries. Milne and Boza investigated emotionally the underlying effects of privacy concerns and correlates on buying practices and the process of making purchase decisions [16]. Salisbury et al. discovered the following from experiential tests that the beliefs of usefulness, convenience of negotiation, and safety were prominent in online shopping, and that perceived improvements in the level of online security would lead to greater intention to purchase products online [71].

Despite the numerous measures of security in place to protect users across the Internet, hackers and unscrupulous websites are still pilfering our individual details, resulting in a rather passive approach to digital memory. To continue to protect online user information, privacy laws need to keep pace with evolving technology as the Internet and computers evolve, adapt and change. Legislation varies depending on the region in which you reside when cookies are involved. In Europe, with the General Data Protection Regulation (GDPR), for example, users online will have to specifically "opt-in" to having their information distributed by cookies. In America, contrarily, a person must clearly "opt-out" from receiving these types of datasharing technologies. Numerous corporations frequently mislead users into sharing their information by masking their cookie sharings notifications with requests to engage in research for the company. It is extremely vital that security on the Internet is maintained. With the tremendous growth in technology in the past 15 years or so, millennials with access to the Internet can unknowingly and unintentionally compromise their safety online by revealing their information if they are not given the appropriate education. Personalization enables the ability to visit things like clicks, testimonials and comments that will eventually help build user bios and permit recipients like Amazon to deliver users individualized offerings across a variety of sectors, covering such things as food and drink, film, technology and the press. This brings us to another of Garner's 2019 articles regarding the ways in which the concept of private can soften the barriers to a stellar guest encounter. An extremely pertinent quote reads, "Organizations that integrate their identity and behavioral data will surpass organizations that fail to do so." The Web can be an exceedingly crowded field, and personalization is key to staying abreast [72].

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