



The Effect of Product Innovativeness on Online
Consumer Engagement Through the Mediating
Role of Intrinsic Motivation and Ewom.

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Abstract : This study investigates the impact of product innovation on customer engagement online. More precisely, we suggest that this association is mediated by intrinsic motivation and online word-of-mouth. On the Facebook page for Macoco, a survey was published. The dataset includes a sample of 220 Macoco product buyers, and structural equation modeling is used to evaluate the data. The findings demonstrate that product innovation only indirectly influences online customer engagement through the involvement of other factors, such as intrinsic motivation and, in our case, online word of mouth. The results also imply that word-of-mouth mediation between product innovation and online customer involvement is more effective than intrinsic motivation mediation. This study is a pioneer in figuring out how people are drawn to innovative products on social media. A lot of online shoppers seem to be drawn to innovative products that spread good word of mouth and affect consumers' intrinsic motivation, giving firms a better competitive edge to outperform their rivals in the market.

Keywords : Product innovativeness, customer online engagement, intrinsic motivation, electronic word of mouth (ewom).

Introduction

A challenging and hazardous approach that enables the business to maintain its competitive advantage and secure its long-term survival is the introduction of a new product on an existing line and winning consumer acceptance. (Bentchakal and Aissani; 2022).

Additionally, it is getting harder to monitor and oversee this strategy given the explosion of new product introductions on the market. Two thirds of new products fail because of this (Bayard; 2023).

When Nieslson demonstrated in his "Breakthrough innovation report" in 2015 that 56% of innovations vanish from stores within six months after a new product is introduced, he provided further evidence of this.

Given these issues, firms started looking for ways to raise the likelihood that their new goods would succeed, and they discovered that product innovativeness (PI) is the most pertinent remedy and the basis for new product creation and failure avoidance (DBN Tchalo; 2022).

In fact, Nguyen et Chaudhuri (2018) claim that a new product with a distinctive, unique idea that carries both relevance and longevity and is especially simple to adapt to the consumer can be a source of commercial success and consumer appeal. He might become more engaged and interested as a result.

Using online communication tactics that make it easier for businesses and customers to connect, businesses have started to use online consumer engagement as a success driver in the social media era to spread the news about their new products (Bourmma et Tebbakh; 2021).

Electronic word of mouth (e-wom), which has grown to be a potent source of social influence and online engagement, has compelled businesses to use it to entice customers to share their thoughts on new products on social media platforms like Twitter, Facebook, and Instagram.

According Malika and Nguyen (2018); Companies should simply pay more attention to earned media and harness online engagement, where the consumer is the key channel of communication, rather than focusing on paid media to highlight their innovativeness. This is made feasible by providing them with detailed, unbiased information that helps them to evaluate new items, such as price and technical details that will improve credibility and eliminate ambiguity.

Companies that produce innovative products will have an impact on consumers by educating them about the features, advantages, and value of these recently launched products. This will lower consumers' perceptions of risk, establish trust, and increase excitement, connection, and engagement (Nguyen and Malika; 2018).

This leads us to the conclusion that there is a strong correlation between product innovation and online consumer engagement.

It should be noted that a lot of research has clarified the significance, i.e., the theory and practice of product innovation and online consumer engagement, but to the best of our knowledge, they have not made an effort to comprehend how the two concepts are conceptualized and how they relate to one another. The investigations by Nguyen and Chaudhuri (2018) are the first to link these two ideas, and they discovered that there is in fact a connection between innovativeness and online consumer involvement.

Therefore, it is essential to understand how one influences the other in order to prevent the failure of new firm products and to encourage consumer engagement when new products are launched.

This study fills in this knowledge vacuum and seeks to comprehend how product innovation affects consumer online involvement.

This study's major goal is to offer an explanatory model for how product innovation affects online engagement. The secondary goals of this study are to clarify the two novel ideas of product innovativeness and online engagement, to investigate how innovativeness influences individuals' intrinsic motivation and the ability to attract e-women, and to eventually uncover intervening elements in this relationship.

A review of the literature and the formulation of hypotheses open the remaining section of the paper. The second is the research setting, the data used in the research, and the data analysis. Finally, we offer the findings from this research, together with its primary contributions, limitations, and debate.

Litterature review

Product innovativeness

According to Hind and AZOUAOUI (2023), product innovation is crucial to the development of new products since it has a significant impact on consumer behavior.

Innovation, according to Magrini (2003), is measured by the amount of time a company takes to implement novel concepts before competing businesses. This definition states that innovation occurs when a company adopts new concepts to create cutting-edge items before its rivals do. For this reason, a firm must consider how to have the capabilities and skills to make its own footprints that will generate a whole propaganda and become the topic of interest to everyone, and that is innovation. It is not enough for a company to just put a valuable new product into the market. (Stauffer; 2015)

According to the writers, a new product that is innovative is one that was developed by an inventive business, has fresh concepts and creative resources, can produce novel experiences, and is the first of its kind to hit the market. Gudda (2017); Sheng (2017); Duan et al. (2017).

Researchers separated product innovation into two categories: new to the market and new to the company. New to the company in terms of the development of new marketing strategies, when there are issues with customers, rivals, or products, and the development of new technological fields, the use of new technologies, the use of equipment, or new processes.

New to the market in terms of the key advantages that new products can offer to customers in terms of the product's distinctiveness, the value they add to the market, and their capacity to provide advantages that other alternative products (Guemlal et Kabouche; 2022)

Nguyen et Chaudhuri's (2018) research shows that product innovation is strongly correlated with online customer engagement, that this relationship is complicated by mediating factors,

and that the combination of product innovation and online customer engagement increases product success, promotes business survival, and lowers product failure. Therefore, combining product innovation with online consumer engagement gives businesses the chance to engage users in conversation about the innovation and encourage them to spread the word about it. The rapid pace of technological change puts businesses' concepts and expertise at risk of becoming outmoded. They should maintain consistent online contacts with customers to be abreast of new developments, new trends, changes in consumer behavior, and new demands in order to assure the innovativeness of their products (Jose Ribamar Siqueira et al. 2018). For this reason, in this study, it seems interesting that we decided to expand the field to better understand this relationship.

Online customer engagement

Social networks have existed for a while now and are now a part of our daily life. To satisfy and retain more customers, attract more attention, produce more synergies, and build a whole virtual community that enables them to promote and protect their brands and raise the value of their goods and services, marketers have broadened their social media strategy. Therefore, online involvement was the main topic of investigation (Metloug et Moussamri; 2022).

According to Calantone et al. (2015) and Brian et al. (2020), "online customer engagement is generally about building a multidimensional consumer-brand relationships including affective, cognitive, and behavioral dimensions stemming from intrinsic motivations that drives individuals to take action."

Previous research agree that the concept of online customer engagement is a multi-dimensional concept with three dimensions : *cognitive, emotinal and behavioral* components.

The consumer's interaction with the brand is more "cold" and detached from emotion in the cognitive component. In order to reap more benefits from a brand, a logical long-term relationship with it must be established (Gervereau ; 2020).

Emotional component represents the 'hot' part of this relationship relationship as it is emotionally based (Schiewer, 2023).

Affective engagement is defined in the marketing literature as the desire and wish to have a close relationship with the business and represents the customer's desire to be a part of a consumer community and to buy a product as they are emotionally attached (El Kodssi; 2019). The final element of engagement is behavioral, which describes the actions people take to keep up a relationship with a brand. These actions include spending time learning about it, keeping up with its activities, and connecting with others (liking, sharing, and commenting ; Deloyer and Renard (2018); Hollebeek et al. (2014).

Mediator variables

Intrinsic motivation

Intrinsic motivation plays a part in generating consumer engagement on social networks, as indicated in the definition of online consumer engagement. For this reason, intrinsic motivation is regarded as a mediating variable in this study.

For Maslow (2021) motivation is "a stimulus that drives an individual towards learning in order to satisfy his needs".

Luthans (1992) and Murray (1964) consider motivation as a force that prepares individuals to act in a particular direction to achieve their goals and satisfy their physical or psychological needs.

Therefore, motivation starts when people feel their current condition is unsatisfactory and think a better scenario might come about in the future (Berger, 2021).

As a result, he gains the motivation or drive to look for a solution to meet his wants.

The same is true of internet participation. Customers will always find for ways to meet their requirements when they are driven to do so. They discovered that the most pertinent sources to meet their needs in this instance were internet websites and communication with others through social networks and other channels.

Consumers are motivated to seek out new relationships and possibilities to realize their goals as a result of the numerous sensations that this form of communication elicits in them, which gradually boosts their online engagement (Reeve, 2017).

Electronic word of mouth (ewom) :

The emergence of the so-called "electronic word of mouth" across numerous online channels, including social networks, blogs, and emails, is a result of the development of the Internet and the opening of various platforms. (Mahroug et Moussouni ; 2021).

This occurs when individuals publish information on social networking sites about their experiences, thoughts, facts on goods, services, and brands, and they ask for feedback from others (Debeur et Roginsky ; 2019)

Individual impressions are strengthened by this. This is demonstrated by Keller and Libai (2009), who discovered that social discourse generates more than 3.3 billion impressions daily. The most significant source of social influence nowadays is electronic word-of-mouth, as it encourages consumer interaction to share experiences, ideas, and feelings with others.

According to research by Micknsey and company (2010), 20 to 50% of purchase decisions are made by e-women. This demonstrates that e-wom is a source for attracting clients with creativity.

People are unsure of what to do when a new product or piece of technology is introduced. So they seek assistance through word of mouth. Customers are more likely to adopt new products as a result of this, which helps to lower the risks involved in product purchasing decisions and boost interest in new products. A high level of interest can also result in impatient curiosity, which encourages interaction. Hang, Nguyen and Chaudhuri (2018). This is the reason e-wom was selected as the mediator variable.

Research model and hypotheses

The assumptions that demonstrate the connection between product innovation and online customer involvement are developed in this section. The hypothetical relationship's conceptual model is displayed in Figure 1.

First off, social network-based online consumer involvement has quickly gained popularity within the industry due to the dominance of technology (Robert Rietveld et al. 2020). This development is causing businesses to market and spread their new items on social networks in order to achieve immediate success.

According to earlier research (Nguyen and Chaudhuri, 2018), new products are more likely to produce e-wom because they have novel knowledge, new functionality, proprietary technology changes, novelty, and consumer benefits that compel people to discuss this innovative power. Customers began discussing this innovation online, sharing it with others, spreading the word, and generating electronic word of mouth (Maguy; 2020).

Barthe (2021) reaffirmed this notion by demonstrating how innovation has successfully encouraged people to communicate about their experiences and engage in online networking during the previous decades.

Innovative products therefore accelerate word of mouth and make it even simpler. Because of this, there are millions of tweets, status updates, and letters posted on this innovation every day.

To talk about it, share it, and distribute it in this scenario would have an impact on thousands of individuals (Berger, 2014).

H1: Product innovativeness affect positively word of mouth.

The lack of interest in other items that they are already aware of but only want to seek for and adapt to one of them may be due to motivation.

Given the diversity of motivating theories, the answer to this question cannot be centered on a single cause because various elements may be interrelated (Franck ; 2023).

Additionally, the propensity to learn new things is a feature of human nature (Dowling, 1978; Hirschman, 1980). Because everyone enjoys learning new things, when a consumer notices a product's innovation, he starts to believe that this product is unique compared to the thousands of others on the market. In this situation, he believes he has an innate need to learn more, which makes him more receptive (Shenglan Fu et al ; 2016).

According to Xifei Fang and colleagues' research, innovativeness affects people's intrinsic motivation. As a result, products that are innovative, intriguing, and fun have a strong chance of drawing in customers and winning their approval since they are seen as useful, pleasurable, and essential.

In a similar vein, research from Delmas (2018), who started with the premise that intrinsic motivation is linked to diversity, shows that innovative products with novel concepts and ideas cause consumers to perceive them as distinct from other products, which encourages them to seek out this variety and use products that are unique from others. Therefore, innovation increases customer intrinsic motivation (Pedro Cruz et al. 2010).

H2: Product innovativeness positively affects consumers' intrinsic motivation.

Previous research has revealed that network activities including debates, comments, shares, and likes are the most well-liked ways for users to interact with brands (ABOULAALA; 2021).

Companies use social networks to share practical and useful information about their products with consumers, who then spread it to others. This is a component of the e-wom framework, which is now a potent motivator for thinking.

Today consumers trust the opinions of others and e-wom rather than other traditional sources (Karakaya and Ganim, 2010; Ashley and Tuten, 2015).

The impression of these advantages drives people to learn more about the product or service and its advantages over competitors, deepening their connection to the brand and raising online customer cognitive engagement (Melghalgh and Ouahi ; 2020).

In conclusion, the sharing of opinions, assessments, comments, and reviews enables businesses to build online communities and gradually get a better understanding of potential customers, which in turn enables customers to impromptu engage in conversations to determine which is the most logical offer that suits them.

When they obtain this information from e-women, they are drawn to a particular good or service since it is the most useful to them and offers a variety of advantages. In this instance, people will be drawn to this product, which motivates them to interact with the brand directly in order to learn more, to look for new things, and to engage with it in a way that affects their engagement. Hence:

H3a: Electronic word-of-mouth affects positively consumers' cognitive online engagement.

Engagement is also about the emotional attachment that connects consumers to actions or objects in order to build long-term relationships with customers. (Sashi, 2012).

Berger (2014), showed that e-wom influences the emotions of current and potential customers to lead them to affective engagement.

In a social communications, brand-related reviews and opinions provide emotional support and positive feelings about the brand, product or service. This creates feelings on the second party influencing customers and non-customers to connect with the brand, develop their knowledge and experience which express the emotional engagement of online consumers. (Sashi, 2012).

These feelings lead people to develop a direct relationship with the company and feel a certain way about and engage with their products or services. (Berger, 2014)

In the same way, in terms of products, services and news, e-wom provides interactive solutions that make people feel more comfortable, satisfied and happy, because such interactions do not exist in the traditional face-to-face world (Hrichi and Ben Rached, 2018), which creates a positive attitude towards a product, service or brand service and leads to gratitude and positive emotions in others.

In general, rewarding e-wom through a product, service and brand leads to affective engagement (abdaullalim and al swidi, 2020). It is therefore logical to consider that :

H3b: e-wom affects positively consumers' affective online engagement.

Research by Baber and al (2022) shows that e-wom strongly influences an individual's behavioural engagement, because e-wom is an unrewarding source characterised by credibility and empathy.

Gvili and Shalom Levy (2018) show in their research social networks-related research, that the behavioural dimension of engagement is strongly affected by e-wom, as the latter promote consumers' immediate and relatively free engagement activities, especially when the opinions of others are very important that they may forget their own opinions (Caroline Morrongiello, 2013).

Van doorn et al (2010) and Natalie De vries et al (2018) show that brand interaction, commenting, and sharing are seen as forms of behavioural engagement related to a company's product innovativeness. In fact, when consumers are exposed to the brand, they spontaneously click the "like" button or share or enter a comment (Gummerus et al. 2012; Tafesse and Wien, 2016).

According to these arguments, e-wom affects customer behavioural engagement through rich brand information content, stimulates customers to adapt to useful and optional behaviours and increases customers' propensity to spend some time viewing feedback, providing opinions and reviews, and interacting with the brand. This promotes positive behaviour and stimulates engagement (Levy and Gvili, 2015).

All this develops in consumers' positive thoughts about the objects of interest such as honesty and sincerity, which reassures consumers and increase the likelihood of engaging in voluntary behaviour. (Melghagh and Ouahi, 2020).

Based on these arguments, it is logical to think that e-wom positively influences consumers' online behavioura.

H 3c: e-wom affects positively consumers' online behavioural engagement.

One theory that looks at the motivations and engagement of internet consumers is the use and pleasure theory. To better understand how consumer motivation affects their choices, this theory is extended to social networks (Qin Gao and Feng, 2016).

To be clear, engagement happens when a consumer feels motivated to browse, explore, and engage in what is known as cognitive engagement in the hopes of reaping rewards.

Therefore, online consumer engagement can only happen through consumers' intrinsic motivation when they find that interactions with a product, service or brand is interesting, enjoyable and more beneficial to them.

In this case, they will actively engage with the company whenever they find the brand or service more useful to them. In this case, intrinsic motivation is the driving force behind an individual's online cognitive engagement. (Leclercq et al, 2016).

According to this, intrinsic motivation is inherent in consumers cognitive engagement, joining a brand's social networks to make comparisons, see benefits and choose the most useful one on their own initiative without any external influence, because It is their intrinsic motivation that leads them to engage to obtain the required benefits. (Frimpong, 2018).

In conclusion, people make a lasting engagement because their intrinsic motivation leads them to believe that there is always something to gain from it (Van Doorn et al. 2010).

H 4a: Intrinsic motivation affects positively consumers' cognitive online engagement.

An individual's intrinsic motivation creates a demand for diversity, relaxation, and enjoyment, which propels them to look for enjoyable, stimulating, and amusing activities to satiate this need. Emotional engagement results from the enjoyment, thrill, and amusement these activities provide (Young Hoon Kim et al 2013).

Because of this, Parihar and Dawra (2020) suggest in their research that affective engagement originates from the self, just as it originates from a person's interest in a brand, category, etc.

People are intrinsically motivated to seek out more information, participate in, and interact with a brand's product when they are interested and enthusiastic about it.

In this case, their inherent connection, emotion, and passion are the main factors that reinforce their emotional engagement because they experience multiple feelings such as connection and belonging, when looking back at a company or brand platform (Gummerus et al. 2012).

H4b: Intrinsic motivation affect positively consumers' affective online engagement.

Van Doorn et al (2010, 2011) indicated that consumer engagement is reflected in behavioural manifestations that result primarily from motivation.

Other previous research (Kabadayi and Price, 2014; Pereira et al, 2017) confirm this idea, stating that intrinsic motivation is the driving force of consumer engagement, as they engage as consumers because they always experience intrinsic feelings of affinity that lead to voluntarily liking, sharing and commenting on the publication of a given brand.

According to these arguments, almost all of behaviours involved are based on intrinsic motivation. (Kumar et al, 2010). So, whenever a consumer voluntarily generates feelings and thoughts towards a brand or product, it influences their behaviour to participate in activities related to that brand or product and thus engage behaviourally.

H4c: Intrinsic motivation affects positively consumers' online behavioural engagement.

Mediation hypothesis

Innovativeness and cognitive engagement are related through the mediation of intrinsic drive. The consumer is internally driven from a cognitive perspective since, in this case, innovativeness is about identifying their expectations and awakening their wants so that they start considering the advantages that may be attained from adopting this innovativeness (Emmanuel Kessous; 2010).

Cognitive engagement occurs when a consumer first notices an innovative product and begins to weigh his expectations against the advantages it will provide.

Overall, innovativeness directly affects motivation as it makes the consumer think there will be bring several benefits, such as usability and functionality that will increase his desire and induce cognitive engagement (Meuter et al, 2005). Therefore, it is logical to consider:

H5a: Intrinsic motivation mediates the relationship between product innovativeness and customers' online cognitive engagement.

According [Claudie Gervais \(2007\)](#), Intrinsic motivation engages individuals in innovativeness in a cheerful manner, because innovativeness is intrinsically attractive and surprising, stirring emotions, increasing passion and giving them pleasure and fulfillment.).

Consequently, it pushes the individual to emotional responses. Specifically, it is logical to say that innovativeness can influence affective engagement ([Meuter, 2005](#)). According to this, it is logical to consider that hypothesis H5b :

H5b: Intrinsic motivation mediates between product innovativeness and emotional online engagement.

Behavioral changes occur when consumers are intinsically motivated. They will be more engaged through mentions, and comments, and therefore more focused on the newly launched product.

This drives them to try new things for the first time, whether it be new technologies, products or services. Intrinsic motivation often lead to changes in consumer behaviour, making them more engaged to using new products, services and technologies. ([Tucker, Reinke & Hall, 2003](#)).

H 5c: Intrinsic motivation mediates between product innovativeness and consumers engagement in online behavior.

Our conceptual model assumes that product innovativeness stimulates online consumers engagement by generating electronic word of mouth. In other words, communication channels increase the impact of innovativeness on consumers' online engagement ([Hang and Malika, 2018](#)).

For this reason, marketers are using electronic word of mouth as a new form of communication, because, Internet users today trust the opinions and experiences of others because they seem be the most honest as they can provide information about product attributes, performance and benefits.product.

e-wom allows an individual to search for exact information about the product and verify that it meets his or her criteria and attributes ([Kiecker and Hartman, 1994](#)). So, It is logical to take this into account.

Here, electronic word of mouth mediates the relationship between product innovativeness and cognitive engagement of consumers.

H6a: Electronic word of mouth mediates between product innovativeness and consumers' cognitive online engagement

A mediator that values a person's desire to develop an emotional connection with a brand or an authority figure is electronic word of mouth. E-wom can affect how people perceive innovation. Because it is viewed as a source of moral support that can boost decision-making confidence and direct attitudes toward innovation, the customer selects electronic word of mouth ([Kiecker and Hartman, 1994](#)).

Thus, e-wom helps to maintain a lasting and inseparable emtional relationship by sharing, discussing, and speaking out about the brand's product innovations. Again, this mediation is seen as an emotional and psychological proximity between individuals and innovativeness ([Caroline Morrongiello, 2006](#)).

H6b: Electronic word of mouth mediates the relationship between product innovativeness and consumers' online affective engagement.

Interacting with, sharing, commenting and visiting pages with brands are all actions that drive individual behaviors to engage with the innovativeness of the brand or company (Perrault; 2017).

As a result, electronic word of mouth is a direct tool to motivating people to engage with innovativeness as posts, videos, images, comments and discussions will capture the attention of individuals and encourage their behaviour to participate, interact, share and convince them to engage. (Kumat et al, 2017). With this in mind

H6c: Electronic word of mouth mediates between product innovativeness and online behavioural engagement of customers.

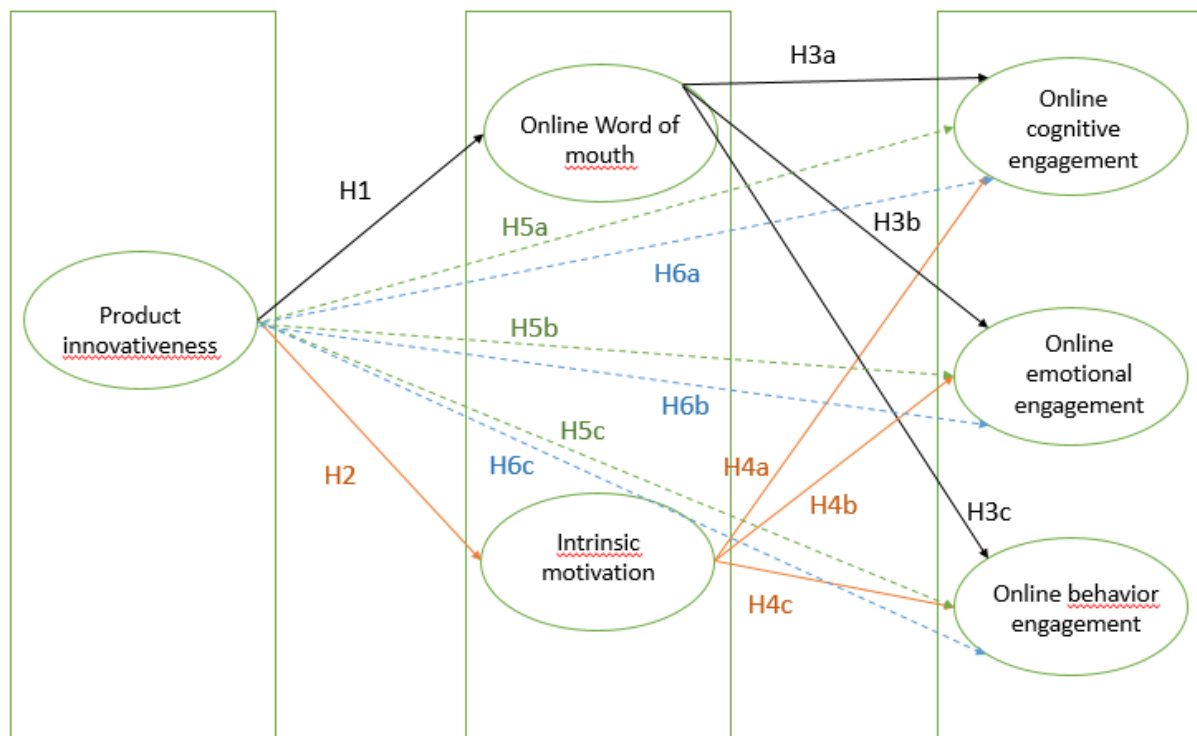


Figure1 : Research framework

Research Methodology

To meet our objective of determining the effect of product innovativeness on consumer online engagement, we limited the scope of our research to a single brand and a specific product category of that brand.

Product category

It is possible to study product innovation and online customer involvement across a variety of fields and product categories.

In our situation, we chose to concentrate our research on a single cosmetics company. The research in this area is lacking, to start. Second, to avoid confusing the consumer, we chose to limit the survey to just one brand.

Choice of brand and study population

We chose to perform a brand study to better understand the effect of product innovativeness on customers' real-life online involvement in order to test the model and assumptions of this study. The brand must be a creative business that offers fresh items based on its own concepts and has a solid web strategy in place to track online engagement.

For this reason, we settled on a local business that is a popular brand of cosmetics, makeup, and personal care items in Tunisia. In order to preserve interactivity and personalisation with its clients, this is the Macoco company, which provides a direct marketing system and has adopted an online approach since its debut.

Women are more interested in cosmetics than men. For this reason, we decided to conduct the study on women. 18 years old Women who subscribed to the Macoco brand page were included in the study. Indeed, people over the age of 18 are considered to be of legal age and responsible for their own choices.

Participants

Our survey includes 22 categories, with the biggest number of items (10) relating to online customer involvement. As a result, ten times as many observable variables are required for the study to be valid (Akrou, 2010), and five times as many items are required to gather the results. In our instance, 110 replies were required. 220 respondents made up the final sample that was collected for our investigation. In actuality, women make up all of the respondents.

Measures

Existing literature on Product Innovativeness was used to identify items to measure the constructs of *product innovativeness*. The independent (product innovativeness) is measured using five items relating to product novelty from the customer's perspective. Items were taken from the (Akgun, 2007) scale with a Cronbach α of 0.92.

The dependent variable *online customer engagement* is assessed using ten items adopted from (Hollebeek et al, 2014), they found a Cronbach's alpha of 0.8. Three items were used to measure cognitive online engagement, four items were used to measure online emotional engagement and three other items were used to measure online behavioral engagement.

Intrinsic motivation was assessed using the four items employed on the scale of (Vallerand and al. 1992), which found a reliability score based on Cronbach's alpha of 0.8.

The Online word of mouth (e-wom) items were adopted from (Zeithaml and al. 1996) scale with three items and which found Cronbach alpha of 0.87.

All of these items were measured using a 5-point Likert scale ranging from strongly disagree to strongly agree.

Analysis and Results

Items were first subjected to an exploratory factor analysis. All scales showed acceptable results. First, the determinant of the correlation matrix is not 0. The KMO index is greater than 0.5, indicates the quality of correlation between items. Also, the communality of all variables for all the constructs is higher than 0.5, which makes it possible to keep them all, the Bartlett test is significant ($p < 0.050$). Therefore, the factoring is possible.

Factor analysis is then performed on all variable elements for reliability and validity analysis. The first step is to check the fit of our measurement model Using Amos 21, (Anderson and Gerbing, 1988). The CFA results of the measurement model are shown in Table 1.

The measurement model showed that the factor contributions of all items are greater than 0.5. The variance of the errors are all significant, i.e. $C.R > 1.96$ or $p < 5\%$ and positive, correlation matrix for the 59 variables does not show values > 0.9 . Therefore, there is no improper solutions. (Akrou, 2010).

Table 1 shows that The measurement model is considered to be a good fit when the GFI and AGFI values are less than 0.9. The CFI and TLI values are > 0.9 Also, if the RMSEA value is less than 0.09, The measurement model therefore fit the data well. Similarly, the RMR is <0.08 . In this case, our model satisfies all conditions. It is therefore a good fit according to the threshold of Roussel and al (2002).

Table 1: The quality of the measurement model fit

Indices	RMR	GFI	AGFI	NFI	TLI	CFI	RMSEA	X ² /dl
Valeurs	<i>0.042</i>	<i>0.880</i>	<i>0.843</i>	<i>0.879</i>	<i>0.935</i>	<i>0.945</i>	<i>0.057</i>	<i>1.703</i>
Seuils	de <i><0.08</i>	<i>>0.8</i>	<i>>0.7</i>	<i>>0.8</i>	<i>>0.9</i>	<i>>0.9</i>	<i><0.09</i>	<i><5</i>
Roussel (2002)								

Reliability, convergent validity and discriminant validity were measured using average variance extracted (AVE), composite reliability (CR) and cronbach alpha.

Table2 : CFA- Validity and reliability analysis

constructs	items	Loadings	AVE	CR	Cronbach's α
Product innovativeness	-In new product and service introduction, our company is often first-to-market. -Our new products and services are often perceived as very novel by customers -In comparison with other competitors, our company was introduced more innovative products. -The products of our company offer more advantages over other competitors' products. -our products are more creative than products of competitors.	0.682 0.648 0.861	0.529	0.85	0.833
Online customer engagement (cognitive)	-Using this product gets me to think about the brand. -I think about other products a lot when I'm using a product -using this brand's products stimulates my interest to know the other products.	0.851 0.724 0.805	0.632	0.87	0.836
Online customer engagement (emotional)	-I feel very positive when I use the brand's new products. -Using new products makes me happy. -I feel good when I use the new products products. -I am proud to use the products of this brand.	0.773 0.727 0.681 0.777	0.548	0.85	0.827
Online customer engagement (behavioral)	-I spend a lot of time on the brand page than others. -Every time I use social media I visit the brand page. -This brand is one of the brands I usually use because I always see their new products on social networks.	0.630 0.741 0.689	0.573	0.72	0.728
Intrinsic Motivation	-I use the new product for the pleasure I get from using it. -For the satisfaction I get when I try new products that help me achieve my personal goals. -Since I get pleasure and satisfaction when I discover new products of this brand that I didn't know before. -For the interest I have in discovering new products.	0.848 0.788 0.815 0.772	0.650	0.90	0.881
Electronicword of mouth (e-wom)	-I would recommend these products to someone who ask my opinion. -I encourage friends and family to be customers of this brand. -I say positive things about products to other people.	0.737 0.721 0.604	0.575	0.72	0.726

Composite reliability measures the overall reliability of heterogeneous but similar items. The method used to measure composite reliability is the Rho de jorekog method. Joreskog alpha must be greater than 0.6 (Suh and Hun, 2002).

All reliability values are above 0.6 indicating reliable construction and a high internal consistency. (Table 2).

To the Fornell and Larker method was used to measure convergent validity. The results show that all variances are greater than 0.5, so the measurement model has good convergent validity. (Fornell and Larker, 1981).

According to Fornell and Larker (1981), discriminant validity is measured by checking that the mean variance extracted from each paired constructs is greater than the square between the two constructs. Indeed, the AVE is greater than the square root of the common correlations between the constructs, hence the existence of discriminant validity. (Table 2).

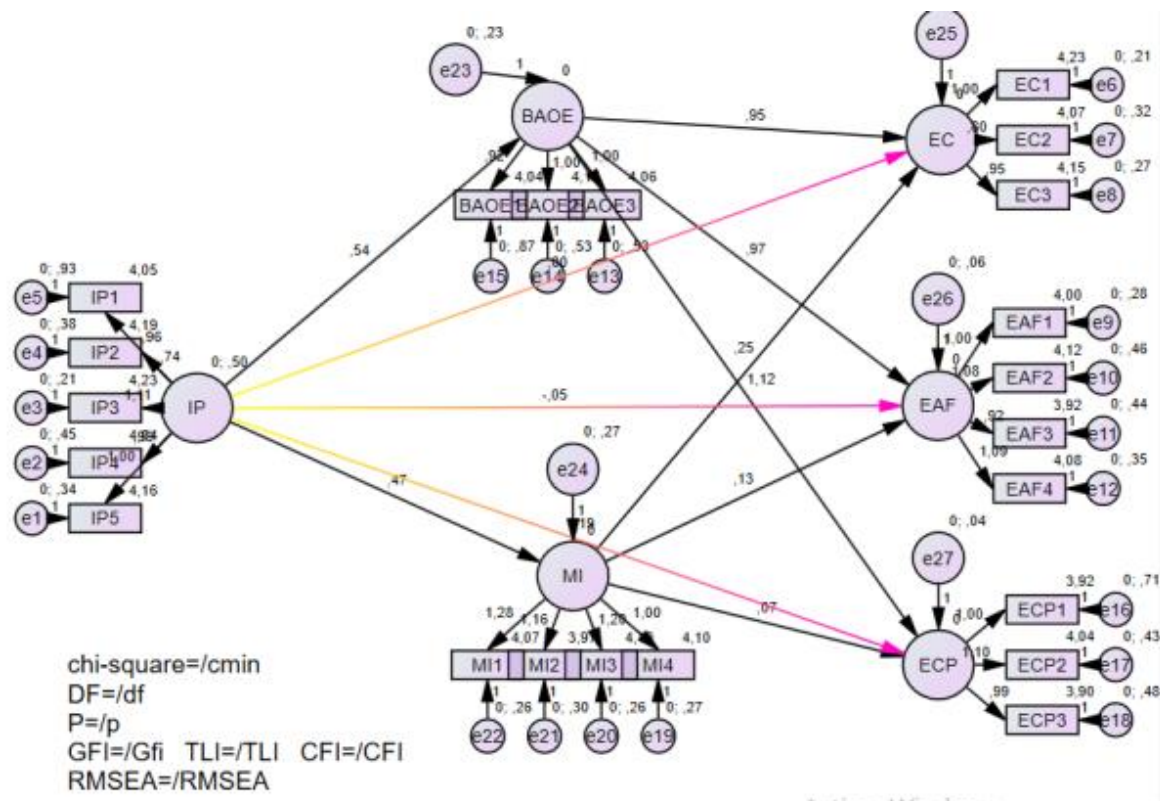


Figure 2 : structural model results.

Notes : Fit values $\chi^2/df = 2.067$ GFI=0.857 CFI=0.915 TLI=0.901 RMSEA=0.070.

By verifying the reliability, convergent and discriminant validity of the measurement model, the hypothesis testing becomes valid and reliable.

Hypothesis Testing : test of direct effect

Structural equation model is used to test the hypothesis. The fit of the structural model showed a good fit compared to the limit of Roussel (2002), The RMR index < 0.08, GFI and NFI > 0.8, AGFI > 0.7, TLI and CFI > 0.9 and $\chi^2/df < 5$, indicating a good structural model fit. (Figure 2).

As shown in figure 2, according to the results of hypothesis testing, product innovativeness has a significant influence on electronic word of mouth and intrinsic motivation H1 and H2 are accepted. The CR test was 6.486 and 6.782 greater than 1.96 with $p = 0.000$ less than 0.05 allowing us to accept the hypothesis and conclude that there is a positive and significant relationship between product innovativeness, electronic word of mouth and intrinsic motivation.

For hypothesis 3a, 3b and 3c, the CR test is equal to 7.623, 7.593, 6.719 greater than 1.96 and p is less than 0.05, indicating that it is possible to accept hypothesis 3 and saying that electronic word of mouth directly and positively influences consumers' online engagement.

Hypothesis 4 relates to the influence of intrinsic motivation on consumers' online engagement. The results suggest that cognitive engagement is influenced by intrinsic motivation. For the affective dimension, the results indicated that the hypothesis H4b was rejected. The same for the behavioural dimension (H4c) the CR test was $0.861 < 1.96$ and p not significant. (Table 3)

Mediating role of word of mouth and intrinsic motivation

One of the main aims of this study was to investigate the mediating role of e-wom and intrinsic motivation in the relation between product innovativeness and online customer engagement. In our case, the conceptual model contains two mediator variables and more than three latent variables. Therefore, Bootstrap method with Monte Carlo simulation is the most appropriate. Table 3 illustrates indirect effects.

Table 4 : the mediation analysis results.

	Product innovativeness				
	Indirect effect	LB(BC)	UP(UB)	P	
Intrinsic motivation	,000	,000	,000		Partial mediation
e-wom	,000	,000	,000		Full mediation
Cognitif engagement	0.632	0.436	0.922	0.968	
Emotional engagement	0.585	0.390	0.869	0.591	
Behavioral engagement	0.643	0.420	0.986	0.08	

The mediation effect bootstrapping test showed that product innovativeness had an indirect effects on all 3 dimensions of consumer online engagement through the ewom and intrinsic motivation and the direct effects were not significant ($p > 0.05$).

Table 4 shows that the effect of PI on the 3 dimensions of engagement is an indirect effect. The effects of PI on the cognitive, emotional and behavioral engagement of online consumers are an indirect effect through ewom and intrinsic motivation. The effect estimates are 0.632, 0.585, 0.643 respectively. This effect is significant because the variable has 90% chance of being between 0.439 and 0.922, 0.390 and 0.869 and 0.420 et 0.968 respectively.

Hypotheses H5a, H5b, and H5c are partially accepted since it is true that intrinsic motivation indirectly mediates the relationship between product innovativeness and consumer online engagement but it has a direct significant effect only on the cognitive dimension, this means that the indirect mediation effect between innovativeness and the two dimensions of engagement may not fully revert to intrinsic motivation but may be due to the intervention of other factors.

Theoretical and managerial implications

On a theoretical level, this study makes several theoretical contributions to the marketing literature. This study expands on research on consumer engagement, such as that of [Hollebeek et al. \(2014\)](#); [Eigenraam et al. \(2018\)](#); [Yaniv and shalom \(2018\)](#).

At the same time, several previous studies have investigated product innovativeness from the firm's perspective Such as the studies by ([Danneels and Kleinschmidt, 2001](#); [Akgun et al., 2007](#)). Therefore, our research makes a considerable contribution by examining the innovativeness of products from the consumer's perspective.

In addition, this research, examines consumers online engagement, while several other studies examine offline consumer engagement. This is where the contribution of our research.

At managerial level our results support the idea that electronic word-of-mouth directly affects consumers' online engagement. Therefore, it is important for companies to figure out how they can influence e-wom to engage online consumers.

Our study also shows that companies can rely on electronic word of mouth as an effective strategy to engage consumers.

However, consumers must perceive the power of innovativeness from the outset, as intrinsic motivation is a neat emotion that can easily lead to engagement. That's why companies should know how to attract the intrinsic motivation of consumers.

Innovativeness comes with challenges, but they open up productive paths for companies to survive and growth, that's why Companies should therefore not innovate for themselves, but should create innovativeness that serve consumers well and motivate them.

Discussion and conclusion

The central aim of this study is to understand how product innovativeness affects the three dimensions of engagement. We found that, in theory, other factors could intervene to facilitate this relationship, such as electronic word of mouth and intrinsic motivation.

Based on the work of [Gervais \(2007\)](#) and the research of [Chaudhuri and Nguyen \(2018\)](#), and on the results of the quantitative research, we propose to consider innovativeness to influence consumer online engagement through the intervention of other intervention variables.

Although, few studies have focused on understanding this effect, the results show that innovativeness has an indirect effect on consumers' online engagement through the intervention of other variables.

Selected mediating variables, namely e-wom and intrinsic motivation, mediate the relationship between innovativeness and engagement. Thus, the results show that innovativeness affects individuals' intrinsic motivation: when consumers perceive innovativeness, they intrinsically tend to know more and he feel happy. These results are consistent with those of [Gervais \(2007\)](#). We can see that an innovativeness that are new to the market and that many people are talking about intrinsically influence people to search for more information, creates intrinsic feelings in people's mind and affects their behaviour

But intrinsic motivation did not lead directly to engagement because, according to the findings, intrinsic motivation only had a direct influence on the cognitive dimension.

In our case, when the macoco brand launches each innovativeness, individuals began gathering information to ensure that the brand's products were enjoyable, interesting and most valuable. Thus, the consumer engages to satisfy his curiosity and reap the expected benefits from this innovativeness. In contrast, the obtained results showed that intrinsic motivation had no significant influence on affective and behavioural engagement, suggesting that intrinsically motivated individuals do not directly affect their emotions and behaviors towards innovativeness.

This result contrasts sharply with those of ([Gervais 2007](#)) which showing that intrinsic motivation is a key potential to affect all 3 dimensions of engagement simultaneously.

Therefore, companies should not only act on the intrinsic motivation of individuals, but also consider other variables when introducing innovativeness.

For electronic word of mouth, nowadays, companies spread their innovativeness on social networks, when consumers perceive this innovativeness, they start sharing information, and comments, and consumers also start to exchange information, comments and share.

The results show that there is a significant positive relationship between product innovativeness and electronic word of mouth. These findings are consistent with those of [Nguyen and Chaudhuri \(2018\)](#).

This means that Macoco's product innovativeness is a source of consumer traction, and the brand is now increasingly using social networks to benefit from this appeal allowing consumers an opportunity to evaluate, speak, share and comment.

The results obtained allow us to show that social networks has become a very popular and important strategy that offers consumers multiple ways to engage in product innovativeness cognitively, emotionally and behaviourally through e-wom.

Moreover, the results lead us to confirm that e-wom has a positive and significant three-dimensional effect on consumers' online engagement, which supports the studies of Shu Chuan (2009) and Shahbaznezhad et al (2021). They argue that today's e-wom facilitates engagement and keeps customers engaged with company's products (Dylan et al ,2019).

So there is a mediating relationship of e-wom between product innovativeness and online consumer engagement. These results support the idea that product innovativeness influences consumer online engagement through electronic word of mouth. This supports research by Malika Chaudhuri (2018), who found that product innovativeness affects what others think and post on social networks, and that informations, opinions, comments, discussions shared between individuals have a significant effect on making others to engage cognitive, emotional and behaviourally engage with innovative products.

The results of our analysis led us to some interesting conclusions. Therefore, the effect of product innovativeness on consumer online engagement is an indirect effect mediated by other factors.

In our research, we found that electronic word of mouth alone is able to drive the relationship between innovativeness and engagement. Whereas, intrinsic motivation, alone, can only affect the cognitive dimension of the consumer.

To this end, we can easily conclude that e-wom is a more robust mediator than intrinsic motivation and confirms our main research objective by the fact that product innovativeness has an indirect influence on the 3 dimensions of online engagement.

Limitations and future research

Some limitations of this research open up new avenues of research. First, while our findings establish the link between product innovativeness and online engagement, we do not examine product innovativeness from the investor's perspective.

Second, we conducted the analysis on cosmetic products. Researchers can study other product categories or monitor online consumer engagement with two different innovative brands.

Third, this study did not assess all the variables regularly included in scientific research of product innovativeness. Further research could extend this study by including other variables.

Fourth, this study focuses only on women who are interested in the Macoco brand. Future research may expand on this study by surveying both women and men.

Finally, there is the issue of generalizing the results of the study because the research was conducted in a particular context with a sample size of 220, which does not allow results to be generalized to all contexts. An extension of the research could be to conduct this study on a larger sample to increase the generalizability of the results.

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