



A framework for predicting consumers' sustainable purchase in COVID era

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Abstract

The pandemic generated by the outbreak of the coronavirus disease (COVID-19) has had a major impact on individual behavior in general and on consumption choices in specific, as people started to pay more attention to the balance between human and nature and shift to healthier, environmental and nutritional sustainable products (such as organic food). However, the organic food market is still relatively small in size at present, especially in developing countries like Egypt.

It becomes of necessity for marketers to understand the emergent changes in consumers' consumption patterns and practices after COVID 19 thus be able to motivate the consumers purchase of organic food. One of growing centrality debates related to sustainability and responsible consumption is the claim that Covid 19 pandemic is a big opportunity for marketers to promote the development of organic food market.

Therefore, the presented paper takes its cue from previous researches and aiming at proposing a framework that based on the Stimulus-Organism-Response (S-O-R) theoretical model. Where the environmental stimuli in the COVID context that are related to consumers (health consciousness, information anxiety, fear of Coronavirus) are considered, in addition to their perceived values of organic food and the actual purchasing behavior. Meanwhile, the mediating effect of perceived values on the relationship between consumers' related environmental stimuli and purchasing behavior was also addressed. The proposed framework consists of three parts;

- 1- The stimuli derived from environment and related to consumers (health consciousness, information anxiety and fear of COVID19).
- 2- The perceived value of organic food (the perceived value of organic food).
- 3- The actual purchase of organic food.

This paper intends to make three contributions to the literature. First, focusing on the relationship between consumers' perceived value and organic purchasing behavior -which was rarely addressed in previous researches- in the context of COVID-19, helps in enriching the existing research of organic consumption. Second, based on the SOR model, consumers related environmental stimuli in the present paper are divided into consumers' health consciousness, information anxiety and fear of Coronavirus, this division may provide a new perspective for the study of organic purchase, thus revealed

valuable suggestions for organic sellers. Third, this paper not only focuses on the role of consumer perceived values after the COVID-19 outbreak, but also its the mediating role in the relationship between consumers related stimuli and purchasing behavior. To help for future researchers by empirically apply the proposed model and benefit organic retailers, policy makers and even organic producers; about how to utilize the bright side of the existing pandemic to generate more clients of organic market and guaranteeing ideal sales.

1. Introduction

The coronavirus crisis has changed the functioning of food systems all over the world. Its outbreak caused a shock in the operations of all of the food system's actors, starting from the sector providing the means of food production, through food producers, the processing industry and logistics, all the way to consumers. According to research the severity of the pandemic's effects varied based on the region of the world, the level of food market development, the wealth of societies, the type of link in the system, and the response from public institutions influencing the system's characters.

The COVID-19 pandemic has caused (and continues to cause) severe disruption in global and local economies and has forced countries, societies, and individuals to adapt quickly to the unprecedented and unpredictable situations. At the macro-level, economies, governance structures, and societal norms are undergoing big changes. At the micro-level, the livelihoods, lifestyles, and backyards of local residents have to adapt. COVID-19 pressures consumers ponder the connection between the environment and human beings. In the food sector, which is the focus of the existing paper, consumers started to increase their demand of organic food products, since there is empirical evidence that organic food is healthier, with higher nutritional content, safer and more sustainable when compared to conventional food (Hoppe et al., 2013; Thogersen, 2013).

Despite the obvious negative consequences of the pandemic, many advocators have called for efforts to identify transformative opportunities for sustainable development throughout this disorderly time. Looking from windows of opportunities, the present study aims at developing a framework focusing on the potential of COVID-19- for future sustainable development through improving organic food demand among consumers, more specifically in countries where organic food consumption is still far less like in Egypt.

Therefore, exploring the emerging behavioral factors in the era of COVID 19 pandemic that could improve consumers perceived values and in turn motivate consumers' purchase of such food products.

It has been claimed that external events, such as natural catastrophes, or substantial personal life deviations, provide windows of opportunity (Thomas et al., 2016) in which new habits can be established more easily and old ones can be stopped (Verplanken et al., 2008). These windows can work as catalysts to change individual behaviors, such as consumption patterns (Schäfer et al., 2012), and other environmentally relevant behaviors (Verplanken and Roy, 2016). Along the same lines, major disasters transformed societies and organizational structures which facilitating new laws to be set or peace processes to be established in motion as claimed by Birkmann et al. (2010).

In periods when habits are (temporarily) interrupted, people have the chance to reallocate their values and intentions, as the drivers of their behavior. On those times, people are more sensitive to new information more specifically that is in line with their personal values (Verplanken and Roy, 2016), allowing for a period of adaptation and change. It is supposed that a window of opportunity may take up to 3 months long, leaving a temporal space for new habits or structures to be established (Verplanken and Roy, 2016).

The present paper argued that COVID-19 might, despite the recognized negative effects, have opened up such a window of opportunity (Schmidt et al., 2021). The positive impact of this pandemic could be observed in various areas; in recent months, releases of fossil fuel throw down significantly (Muhammad et al., 2020), fewer noise pollution was documented in many cities around the world (Basu et al., 2021; Terry et al., 2021), and overstretched ecosystems began to recover (Edward et al., 2021). Moreover, individual behavior patterns have been positively altered (de Haas et al., 2020), and the acceleration of various forms of technological innovation that can expand our quality of life have been observed (Brem et al., 2020). COVID-19-triggered transitions is an evident of where sustainable change processes might have leveraged our life in the present and preserve the ecosystem for the future lives. Given the limited time window available, in which COVID-19 still keeps normality on hold, the emerging related psychological factors that might affect organic food purchase -as one of the essential areas towards positive sustainable change- on a local level immediately need to be recognized (Lambert et al., 2020). The present study

is contributing to the existing literature gap by developing a framework that aims at linking between psychological stimuli associated with COVID 19 and the purchase behavior, so that completing the parts that are missed from the larger picture.

2. Importance of Organic food sector and organic food purchase (OFP)

Organic food sector is one of the fastest growing sectors in many countries around the world, more specifically after Corona virus pandemic (Curvelo and De Morais, 2019). The word organic is best described as all facets that consist of a variety of labels, including fair-trade certified, locally-made, vegan, and sustainable (Thomas, 2008; Henninger et al., 2016). Organic foods are environmentally friendly; it does not utilize antibiotics, growth hormones, pesticides, chemical fertilizers or growth regulators (Thogersen et al., 2015). Organic food products are grown under a system of agriculture with an environmentally and socially responsible approach. They may also include the products that are produced locally therefore, leveraging organic foods consumption/purchase backs the three dimensions of sustainable development with its three pillars -environmental, social and economic- (Elkington, 2004). Organic foods are often regarded superior to their conventional counterparts (Popa et al., 2019); they are more friendly to environmental agriculture, safer, and, ultimately, as healthier than non-organic ones (Thogersen et al., 2015).

Organic agricultural products found to have considerable impact on many facets of our lives; For instance, it affects the consumption of irrigating water as it utilizes 70% of water use worldwide, in addition, 22% of the world's total greenhouse gas emissions is for the food sector that also consumes 30% of the world's total energy consumption (Un et al., 2019). On the other side, organic agricultural products are related to consumer health and waste behavior.

Furthermore, food purchases are claimed to be referent to the persons' cultural, contextual and individual influences, which is loaded with multiple meanings (Richter et al., 2021). The reason behind this is that individuals' food-choice process is heavily dependent on his/her routines and habitual processes i.e. life experiences, which reflects at the end their feelings, thoughts and actions (Furst et al., 1996; Jastran et al., 2010), Therefore, studying the impact of Coronavirus as a global pandemic on people's

consumption and purchase behavior of food in general and of organic type in specific is essential to the expectations of many aspects in Coronavirus era.

Thøgersen (2017) believed that promoting sustainable food consumption would be the key to lessen and improve a series of environmental and health problems. As organic food is healthier and more environmentally friendly than traditional food and can support the local economy (Strassner et al., 2015; Verain et al., 2015; De-Magistris and Gracia, 2016), the consumption of organic food is considered as an important form of sustainable consumption (Strassner et al., 2015; Seconda et al., 2019). The organic market has grown rapidly as the public pays more attention to healthy, safe, nutritious and environmentally friendly organic foods (Kareklas et al., 2014; Basha and Lal, 2019). In 2018, the total global market value of organic food was estimated to be 96.7 billion euros, and global per capita consumption was approximately 12.8 euros (Willer and Lernoud, 2019). Understanding organic purchasing behavior is the key to predicting organic food consumption (Rana and Paul, 2017). Many scholars have done a lot of research on the influencing factors of organic consumption behavior. Some studies believed that consumer perceived values play important roles in promoting the purchase of organic food (Suki and Suki, 2015; Suki, 2016; Akbar et al., 2019; Kushwah et al., 2019; Shamsi et al., 2020). The impact of Corona virus as a global pandemic is expected to influence and be reflected on people's consumption and purchase behavior of food in general and of organic type in specific. Despite its importance, only few studies were found addressed the linkage between the organic food purchase behavior and the Covid 19 pandemic.

3. Background

3.1 Health consciousness

Health consciousness refers to the extent to which health concerns are considered in daily life activities (Wang et al., 2019). It is described as the inner status of a person regarding health. The willingness to take healthy behavior and the level of sensitivity for healthy action are often indicators of health consciousness (Wang et al, 2019). Health consciousness can be understood as the motivation that stimulates consumers to take health activities (Jayanti & Burns, 1998; Michaelidou & Hassan, 2008). Various authors made comparative studies to show the differences between health conscious consumers and their counterparts for example, Čvirik (2020) described consumers with a high level of health consciousness as consumers

who pursuit to leverage and/or keep their welfare by engaging in healthy behaviors, as eating healthy food, physical training , caring for prevention, and the like. Previous research has revealed health consciousness requires precautionary health care (Jayanti & Burns, 1998). Furthermore, Čvirik (2020) verified that health consciousness has a significant impact on the fight against the COVID-19 pandemic; as the level of health consciousness increased among consumers all over the world the virus outbreak recorded diminishing levels. Health attributes and nutritional contents are essential determinants in the of food products assessment in general and among by health-conscious consumers in specific (Magnusson et al., 2003).

3.2 Information anxiety

Bawden and Robinson (2009) defined it as “a condition of stress caused by the inability to access, understand, or make use of, necessary information”. He added that the uncertainty surrounding the existence of a particular piece of information is a major cause of information anxiety. The COVID-19 pandemic has brought extraordinary levels of uncertainty and health anxiety worldwide (Asmundson & Taylor, 2020; Rajkumar, 2020); the uncertainty about mortality rates and contagiousness, vaccinations, additional waves and variants, effectiveness of implemented public health policies, and economic and government stability (Altig et al., 2020; Mohammed et al., 2021).

Eklof (2013) claimed that information anxiety is brought on by the desire to absorb as much information as possible such as when people are seeking out more information regarding COVID-19 on the internet (Caiata-Zufferey et al., 2010; Fergus, 2013; Starcevic et al., 2021; Tolin et al., 2003; White & Horvitz, 2009). Given the state of uncertainty, consumers similarly become also extra anxious and sensitive about collecting more information related Coronavirus causes and consequences therefore, they are forced to re-evaluate their habits and actions. As time goes on, consumers may have information anxiety in common; getting the similar information through various media every day, people would find that they have common information anxiety characteristics which is proved to affect the organic purchase behavior (Liu et al., 2021). Ruiz Mafé and Sanz Blas (2009) found that the information that consumers are exposed to through various information channels can affect their perceived values and behavior.

3.3 Fear of Corona (FCV19)

In fact, the first phase of the pandemic has been characterized by highly emotional and irrational behaviors. Fear of COVID-19 refers to the anxiety, depression, and other negative emotional impacts triggered by COVID-19 (Ahorsu et al., 2020). Fear, is also described as an unpleasant mental status caused by a threat (Pakpour & Griffiths, 2020), it is one of the rude human emotions associated with a natural response for survival (Manyiwa & Brennan, 2012). It was claimed that such emotion can be utilized for boosting customer purchase intention through propaganda and advertisement (Snipes et al., 1999). During the COVID-19 pandemic, fear generated as a result of individuals' cognitive evaluations of the threat and their ability to engage in risk preventative actions. This evaluation process includes re-assessment of the utility against cost associated with their choices including food selection. A previous study demonstrated that consumers when shrouded in fear are more likely to be attracted by products that would reduce the risk of being infected of the pandemic (McDaniel & Zeithaml, 1984).

3.4 Perceived value of organic food

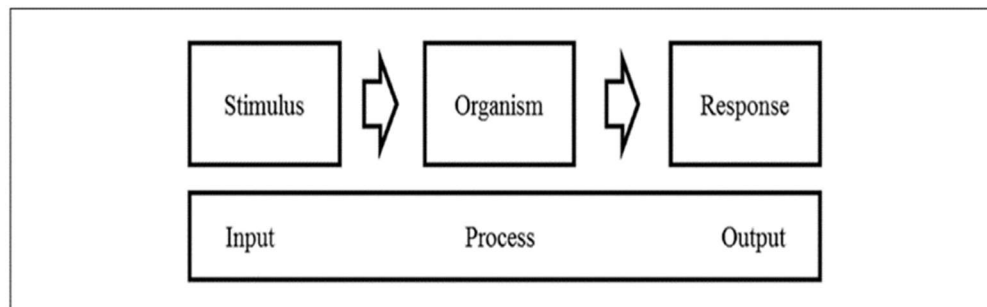
PV is commonly defined as the consumer's overall assessment of the utility of a product based on perceptions of what is received and what is given (Zeithaml, 1988). Perceived values are considered important predictors of consumer decision-making (Sheth et al., 1991). It can explain the internal reasons for consumers to choose specific products (Sheth et al., 1991). It was claimed that due to its environmental and social features sustainable behavior experiences are expected to encompass more than one type of value concurrently, to adequately capture the presence of both cognitive and affective factors in the nature of sustainable value (Holbrook, 2006). It was proved that the consumer realizes the various benefits (utility) of sustainable products, and is willing to pay a higher price for it more specifically after COVID outbreak (Liu, 2021). That is, COVID 19 forced people to re-evaluate their choices, from the perspective of PV, the higher price of sustainable products is perceived by consumers as fair for the acquisition of superior benefits embedded in organic food compared to cheaper non organic alternatives (Shaharudin et al., 2010).

4. Theoretical foundation and hypotheses development

4.1 Stimulus-Organism- Response model (S-O-R)

With regard to environmental psychology, all aspects of the environment considered a stimulating variable (S), affecting individuals' inner states (O), which initiate their behavioral responses (R) (Mehrabian and Russell, 1974). The main idea of the model (see figure 1) is that external environmental factors (output) impact the psychological inner changes of organisms (processing), thus motivating them to perform behavioral responses (output). Meanwhile, it also explains the change of people's internal state can have strengthened or weakened the relationship between the stimulation of external elements and response (Eroglu et al., 2001) in other words, it assumed the mediating impact of people's inner state. Finally, People make the final choice according to the internal state developed due to the output factors related to the environment and take corresponding behavioral responses (Mehrabian and Russell, 1974).

Figure 1: S-O-R model



Source: Mehrabian and Russell (1974)

The SOR model is applicable to the present study for the following two reasons. **Firstly**, Flexibility of S-O-R model as it was empirically examined in various consumer behavior contexts with various extensions (Wang et al., 2011; Chang et al., 2014) and it has been proven as a useful framework. **Secondly**, its comprehensiveness in sense that it provides a short and organized way to test the impact of consumers related environmental stimulus on their psychological factors (e.g., emotion, perception, and cognition), and then test the impact of these psychological factors on organic purchasing behavior.

Stimuli (S); stimulus refers to all kinds of environmental factors met by individuals (Jacoby, 2002). Researches on consumer behavior revealed that consumers more specifically in Coronavirus context are more sensitive for obtaining information through various news media and interact with others through social media (Hajli, 2014). Over time, consumers may discover factors that they are similar to each other in their anxiety thus stimulating their internal perception and ultimately generating behavioral response (Fu et al., 2018). Since it was proved that the similarity of consumers is an important stimulus factor affecting consumers' internal perception and behavior (Liu et al., 2021), the present study assumes that information anxiety is a consumer related stimuli that has been developed in the Covid 19 environmental context and affect consumers' perceived value and purchase of organic food.

Health consciousness has proved its positive effect of health consciousness on perceived value among consumers in the various contexts organic skin care products (Jinying, 2019) and organic food (Thogersen et al., 2015). Health consciousness become a must in Coronavirus context as a preventive action to avoid diseases and infections (De Toni et al., 2018). Consumers with higher levels of health consciousness can sensitively perceive the value of products containing healthy contents (Newsom et al., 2005). Therefore, it could be said that the increased level of consumers' health consciousness due to Coronavirus outbreak worked as motivation to leverage their perception of healthy food value (Thogersen et al., 2015). With regard to its relation with purchase behavior; health consciousness is linked more specifically to the studies addressed the purchase behavior of organic food since it necessitates the inclusion of good nutritional food in consumer's diet, (such as, Megicks et al., 2008; Kumar and Ali, 2011; Prentice et al., 2019; Rana and Paul, 2017). Many scholars evidenced it as a main point of attention when buying organic food (Michaelidou & Hassan, 2010; Fleseriu et al., 2020),

Fear of Coronavirus has been found to play a critical role in consumer behaviors when faced with the threat of COVID-19 (Kim et al., 2021). Besides, an appeal to fear could be positively associated with purchase behavior toward selected personal protective equipment (Addo et al., 2020; Shah et al., 2020). On the other hand, fear has also been shown to have an adverse impact on purchase intentions. For instance, a previous study has revealed a significant negative correlation between the fear of crime at the shopping site and purchase intentions (Burns et al., 2010). Moreover, fear of

the fraudulent use of electronic information (e.g., identity, credit card number) while shopping on the internet has also been reported to negatively affect consumers' buying intentions (Hille et al., 2015). Taken together, fear could be an important factor to better understand the purchase behavior of consumers during the pandemic.

Organism (O); organism refers to the consumers' inner perception (Eroglu et al., 2001). Perceived values are important parts of internal perception. They are the inner motivator for consumers to choose a certain product and an important indicator to predict consumers' purchasing behavior (Fu et al., 2018, Liu et al., 2021).

Response (R); response is the final output and decision of consumers based on internal perception, including approach or avoidance behavior (Sherman et al., 1997). In essence, consumers' organic purchase behavior can be regarded as the approach behavior made by consumers based on internal perception. Therefore, the present paper considered the impact of consumer perceived values on consumers' organic purchasing behavior.

4.2 Hypotheses development

Based on the aforementioned discussion the, the existing study proposed the following hypotheses:

H1. Consumers' health consciousness significantly influences their perception of organic food value.

H2. Consumers' health consciousness significantly influences their purchase behavior of organic food.

H3. Consumers' information anxiety significantly influences their perception of organic food value.

H4. Consumers' information anxiety significantly influences their purchase behavior of organic food.

H5. Consumers' FCV19 significantly influence their perception of organic food value.

H6. Consumers' FCV19 significantly influence their purchase behavior of organic food.

H7. Consumers' perception of organic food value significantly influences their purchase behavior.

H8. Consumers' perceived value of organic food mediates the relationship between health consciousness, information anxiety, FCV19 and actual purchase of organic food.

Theoretical study framework

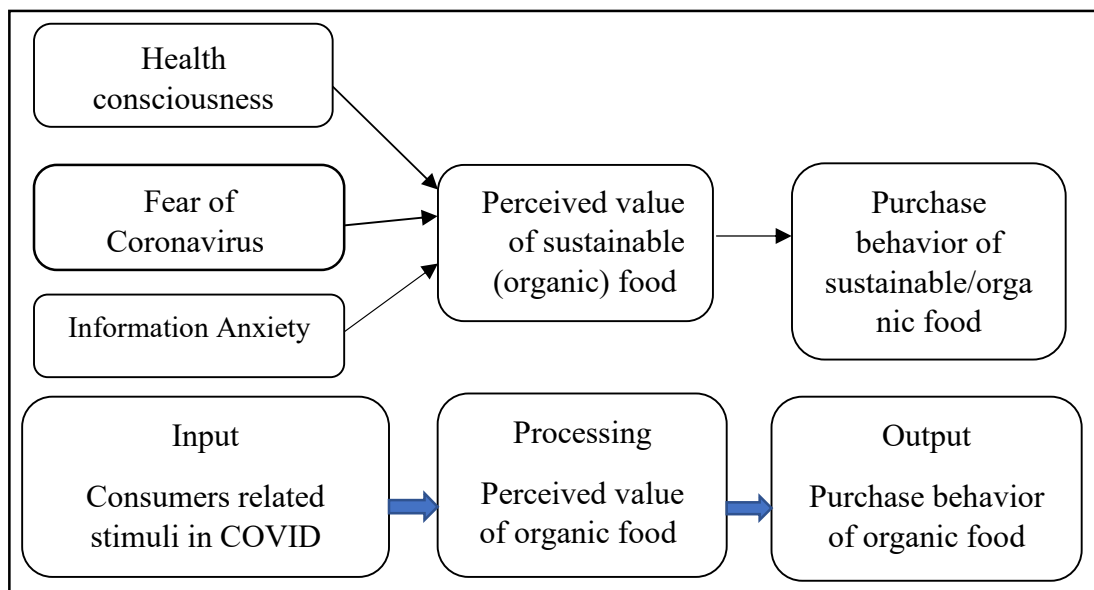


Figure 2: Drivers of consumers' purchase behavior of organic food in COVID era

6. Methodology

This study will conduct the mall intercept survey to collect data and assess the impact of consumers related stimuli in COVID context on their purchase behavior of organic food through their perception of its value. This will help to predict and promote organic food purchase following the COVID-19 pandemic. The convenience sampling will be executed to select 384 participants -appropriate size to grantee representative sample at a confidence level of 95%- (Hair et al., 2006), collecting data will be through questionnaire -as the most commonly used method to collect data from large number of respondents- (Sekaran & Bougie, 2003). The respondents will comprise of the shoppers who residing in urban areas who are expected to be future users of organic food (Tellis and Yin, 2010; Joshi and Rahman, 2017). SEM PLS will be used as an analytical tool mainly due to its advantage in explaining models with multiple interrelated based relationships (Hair et al., 2017).

7. Expected findings

The expected findings of this study may help marketers and businesses to target, segment and position their organic food products. All consumers' related stimuli emerged in COVID context are expected to exert a positive impact on consumers' perceived value of organic food and perceived value is expected to positively affect consumers purchase of organic food. More over the mediating role of perceived value in the relationship between consumers related stimuli and purchase behavior is expected to be proved. At present, businesses should look into the final value presented, whether it is profitable and has an effective value within the society.

8. Conclusion

This study seeks to build a framework that illustrates the impact on perceived values of organic food after COVID 19 pandemic. Drawing on the S-O-R (Mehrabian and Russell, 1974) entrepreneurs and businesses may gain a clear picture to establish effective strategies and plans to survive after the COVID-19 pandemic. This derived marketing strategy is expected to help in performing well as it shows the value that needs to be highlighted in order to attract customers to purchase organic food. As a result, from this pandemic, not only the food industry needs to come together, but the cooperation and support from customers are also essentially needed. Customers are advised to play their roles by considering organic food as an asset and to invest in the environmental, social and economic development through shifting to sustainable products in general and organic food in specific due to its impact on various field of our lives. It can be observed that organic food consumption is a great challenge however, this pandemic makes it a must for us to recognize the interdependencies among business, economy, environment and human health.

9. Theoretical and Marketing Contribution

The theoretical focus of this study based on S-O-R model (Mehrabian and Russell, 1974) which covered three parts; consumers related stimuli (health consciousness, information anxiety and FCV19) in the surrounding environment of COVID context. This model implies an interaction between a customer and product which is essential to be practice specially to survive after COVID-19 pandemic.

When customer improved his/her health consciousness with being anxious toward information about COVID 19 and feels fear from contiguous, he/she values organic more than the non-organic product, they will think that their investment is valuable and they will not reluctant to pay more. Significantly, consumers are a smart bunch, so the industry needs to know the customers and find an influencer that's closest to their heart. Landrum (2018) stated that about 70 percent of customers were willingness to pay extra for brands that invest in sustainability. The market share of sustainable product is still lagging as not all customers put their talk into their final action (Jacobs et al., 2018). On top of that, this theory can become a surface or guideline for the companies to devise a viable marketing plan to promote sustainable/organic food purchase and to stimuli the development of this sector. In the long run, the implementation of perceived value will be able to improve the product attributes, develop branding as well as create a competitive advantage.

Taken together, this study gives a significant contribution to both theoretical and marketing contribution. The viability of organic food market and effective communication strategies from both business and marketing perspectives can ascertain the success of organic food sector after this serious pandemic. In fact, sustainability is more than just a current trend; it is all about the future of the next generation.

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