The effect of Covid-19 on sustainable consumption behavior in chain stores

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Abstract

The crisis situation created by Covid-19 has changed the consumer behavior. One of the most important behavioral changes in consumer behavior that has been in recent crisis is the trend towards sustainable consumer behavior and companies can consider it as an opportunity to attract customers. Therefore, this study investigates the effect of Covid-19 virus on sustainable consumption behavior of customers in chain stores and by surveying customers' data in Iran. This research is a descriptive-survey type and a questionnaire tool has been used to collect data and measure variables in order to examine the research model. Statistical sample was selected by random sampling method from customers of chain stores in Tehran and the data were analyzed using Smart PLS software. Findings showed that the Covid-19 virus has a positive, direct and significant effect on individual, social and situational factors of customers and these factors also have a significant effect on attitudes, intentions and ultimately sustainable consumption behavior of customers. The results suggest that chain stores and their suppliers should increase attention, supply and sales of sustainable consumer products.

Keywords: Covid-19, Sustainable consumption behavior, Individual factors, Social factors, Situational factors, Customer decision-making.

Introduction

The corona virus first appeared in Wuhan, China, on the ending days of December 2020. According to data gathered by Johns Hopkins University, the outbreak has spread to over 185 countries, affected 110 million people, and killed 2.5 million people in February 2021[1]. The COVID-19 crisis, as a global disaster, has had a significant effect on the global economy's growth and is seen as a danger to the sustainability of companies all over the world[2,3]. The consequences of this epidemic, spreading across the globe, are unavoidable.

Quarantine has become commonplace all over the world, especially in the European Union. There are restrictions on travel, a reduction in the amount of foreign travel and a pause of daily activities. It may seem a bit repetitive to say that the corona outbreak has affected all aspects of human life, but the fact is that the growing effects of Covid-19 on the lives of global communities are leading people to explore the disease further. So that it has involved many individual, social and living conditions of individuals. One of the topics that have recently come to the attention of researchers in the field of new corona virus is the traces of the consequences of the pandemic of Covid-19 disease on the goals of sustainable development and the countermeasures of governments in line with the realization of these goals. These days, the need to achieve the goals of sustainable development is felt more and more because their basic principles of increasing social participation, facilitating global access to public services and building unity around the world are also very effective components in curbing the pandemic of Covid-19. In addition, sustainable development goals can help overcome the economic crisis caused by the spread of the virus and move the world in a green direction. Green management is the environmental performance of organizations, organs and companies based on the participation of different groups in order to minimize the damage to the environment caused by sustainable consumption and production. In such a way that it leads to increasing productivity, modifying the consumption pattern towards sustainability, recycling and management of solid waste, optimal use of resources in micro and macro level units, changing the direction of personal and organizational goals, moving towards social decentralize and reduce harmful external factors in consumption and production.

The 2030 deadline for addressing significant economic and social environmental crises is set by the Sustainable Development Goals. Many of these objectives are related to responsible consumption, with target 12 specifically addressing sustainable consumption and productivity[4]. Sustainable consumption refers to the use of products, materials and energy based on the principles of sustainable development. It is the saving of natural resources and energy that has the least impact on the environment. It is also related to minimizing the use of substances and toxic substances. The pandemic of corona virus (COVID-19) has drastically changed the outlook for sustainable consumption. For example, lockdowns around the world have led to lower oil consumption, where benchmark oil prices fell below zero for the first time in oil market history. Similarly, global consumption and demand for coal fell by 8%. However, the effects of COVID-19 on sustainable consumption in the future are not well understood.

Consumer behavior is changing as a result of the global epidemic, people around the world changes the way they live and shop. Many of them are eager to maintain their new habits[4]. For many people, the economic effects of the current epidemic can create more fear than their health effects. Declining incomes, changes in daily routines, and financial problems can all lead to increased conscious consumption, especially since many expect the effects of the epidemic to be long lasting[4]. They have conducted consumer surveys in 45 countries since mid-March to understand the impact of COVID-19 on consumer feelings and behaviors, and the consumption habits adopted by many during the COVID-19 epidemic show that citizens around the world have the desire and ability to make changes to more sustainable lifestyles. Yang[5] also showed in a study that the outbreak of Covid-19 virus has led to a reduction in the consumption of animal meat products and the consumption of standard and sustainable products. Gustavson and Larsen[6] found in a study that companies were influenced by Covid-19 and were forced to change their marketing activities by changing consumer behavior and using innovation in their activities. Hironen et al.[7] stated in a study that the epidemic of the virus has disrupted food marketing systems and dramatic changes in the consumer food basket.

This crisis can create a good opportunity for businesses to solve social and environmental challenges by recognizing the changing consumer behavior and adjusting their activities accordingly, to create a good position among customers. One of the most important issues that customers are more inclined to in this situation and has created a good opportunity for businesses is the tendency towards sustainable consumption behavior (SCB). For example, by advertising and filling the shelves with these products, stores can contribute to the health of society and future generations, and also gain popularity in the field of social responsibility. He and Harris[2] have stated in a study that Covid-19 disease provides a great opportunity for businesses to turn to a more authentic CSR and help address global social and environmental challenges. Though a basic science paper has tried to include information about the impact of COVID-19 on people's wellbeing (e.g.[8]), the possible impacts on customers' behavioral habits have not been considered much and have yet to be fully investigated, and are not studied in terms of sustainable use. Policymakers, according to Cohen[9], have to confirm that the corona virus epidemic has an effect on the transition to healthier consumption[5].

However, previous studies on Covid-19 have further addressed crisis management issues[10-13], Social responsibilities[2,14-16], marketing[17-20], and in the field of consumer behavior and shopping, little research has been done[21-25]. There have been limited studies on sustainable consumption behavior, each focusing on a specific area. Research shows that, in particular, during the Covid-19 crisis, customers' buying behaviors, especially in the field of food, have changed dramatically[26].

This issue and the gaps in the researches on SCB have doubled the importance of examining changes in consumer behavior in order to contribute to community health. Therefore, in order to satisfy customers, contribute to community health and help the environment, this study was conducted to investigate the impact of Covid-19 disease on sustainable consumption behavior in chain stores and provide practical suggestions in this area. Therefore, the question that is raised in this study and we are looking for an answer is: What effect does the prevalence of Covid-19 virus have on the sustainable consumption behavior of customers in chain stores. The results and suggestions of this study are used as a success strategy for companies, especially food industry companies, in satisfying customers in critical and competitive conditions of the pandemic of Covid-19 virus. The results and suggestions of this study, to help different industries in recognizing changes in consumer consumption behavior, especially chain stores to supply products desired by customers in order to satisfy them, manufacturers (suppliers) to produce products according to consumer behavior, authorities are used to plan for the expansion of sustainable consumption behavior, especially in critical and competitive conditions, the outbreak of Covid-19 virus and helping the environment.

In the continuation of this manuscript, research literatures and hypotheses, conceptual model, research methodology, data and findings analysis, discussion and conclusion are presented and finally suggestions for future research and references are presented.

Theoretical development: Covid-19: Covid-19 was introduced to the world with three characteristics: pandemic, incurability and fatal. Firms face crises as a result of natural disasters[27]. In March 2020, the corona virus was declared a pandemic by the World Health Organization (WHO)[28], and the first case was discovered in Sweden in February[29]. The Covid-19 pandemic has triggered a series of developments that have resulted in a financial crisis. As customers remain at home and markets shut down due to the COVID-19 pandemic, many well-known brands in many sectors are likely to go bankrupt[30]. People are increasingly concerned with their health and wellbeing, ending in significant shifts in their shopping habits and tastes[3]. It is clear that a pandemic would cause these firms to reconsider their supply chains to bring supply chains closer to where they are required in order to avoid potential manufacturing stoppages[31]. Although the outbreak of Covid-19 disease has placed obstacles in the way of achieving the goals of sustainable development but the spread of the virus has also had benefits for cities and townspeople. Worldwide quarantines have led to significant reductions in carbon dioxide emissions even in some parts of the world, temperatures have dropped significantly however, and some researchers have argued that the short-term effects of Covid-19 outbreaks on environmental goals and biodiversity remain unclear, and have emphasized the continuation of economic activities without patterns of past environmental degradation.

Individual factors: Individual factors are indicators of each person that are related to internal characteristics and can affect many decisions and behaviors of the person. There are different factors in this study, personal value factors, age, gender and knowledge as individual factors have been examined.

Personal principles are mostly examined in psychology, though they are examined in sociology, management, and political science too[32]. Gordon Allport[33] was the first to incorporate the concept of personal beliefs into psychological study[33]. With his suggestion that values act as reference points for people to formulate beliefs and habits, Milton Rokeach re-energized value analysis. Personal principles are characterized as general, trans-situational, desirable goals that people use to guide their lives[34]. Unpacking this term reveals their distinct characteristics, which set them apart from other core facets of the self[35].

One of the reasons that scholars have been involved in knowledge is its long beig assumed that greater knowledge is linked to greater impact of attitudes on behavior. This hypothesis has been confirmed by a number of tests[32].Age, educational status, wages, and the number of people living in a household are all variables that affect recycling activities, according to Sidique et al.[36]. Diamantopoulos et al.[37] published a systematic study of six socio-demographic variables (age, marital status, and gender, number of children, education, and social status) concluding that older people with more education are more likely to recycle. Teenage girls, in particular, appeared to have greater emotional feelings about environmental problems, though their dedication was no higher than that of boys. Consumers who behave in harmony with the climate, are involved in product recycling, and engage in environment-priority events, according to Tilikidou and Delistavrou[38], are older citizens[32].

Social factors: Social factors are indicators that relate to the characteristics of society and the social conditions in which a person lives and it can affect many of a person's thoughts and actions. There are different types of these factors that in this study, culture, media and Internet penetration factors, reference groups, norm and social responsibility have been studied as social factors.

Values and norms are significant influences on long-term customer behavior[39]. The evolving image of green consumption, according to Peattie[40], is of a mechanism that is heavily driven by consumers' beliefs, norms, and habits, but it is also highly fluid, dynamic, and context based[32].

The firms have to devote more resources to addressing social problems on these fronts both during the pandemic and in the long term[41]. Customers and the general public will have higher expectations of leading brands, especially their favorite brands, in the current crisis in terms of their attempts to fight the epidemic, because a company's initial and true CSR will strengthen its relationship with them. Throughout the crisis

Consumers would think their brands were greedy if they helped their workers with money and clothing through the recession. In cries, the bond between the brand and the customer is stronger and lasts longer than in "peaceful" days. As a result, the Covid-19 pandemic provides excellent ways for businesses to invest with their CSR plans and agendas[2].

Culture refers to people's beliefs about ethics, attitudes, and ideals in a society. Our identity and convictions about the meaning of life are influenced by our history. The unique or collective culture into which a person is born has an impact on how he or she thinks and acts. Our expectations for social contact would rise if society had a more extroverted personality type[42].

Deutsch and Gerard[43] propositions of informative or comparative effects are close to the reference group influence, although its meaning is not precise. As concluded in the Yale community studies[44], origins of high validity have a very significant role to play in defining conformity. An individual can use the knowledge reference category in two separate ways. One is to deliberately seek input from opinion makers or from a community with the appropriate expertise. Secondly, by analyzing the actions of significant others, an individual makes an induction. The person attributes to the nature of the goods, the purchase or sponsorship of the product by an individual or a party that is suggested by attribution theory[45].

The interactive nature of the internet and media allows retailers to have an active two-way communication with their customers to make it easier for customers to make decisions and establish a one-on-one relationship with them. The Internet allows its users to see and order the product or service they want faster and more economically than any other medium. See your invoice, complete your transaction, and even pay for it[46].

Situational factors: Situational factors are the conditions that are created for a person and the person buys under the influence of those conditions. There are different types of these factors that in this study, promotion factors, access and purchase location, sustainable purchase options, policies, rules and regulations have been examined as situational factors.

Promotions (incentives) refers to the set of activities that companies do to provide good information about the value and desirability of the product to buyers, so that among the products available in the industry, the product offered to buy them[47]. A small and medium business must consciously and carefully combine promotion tools in order to create a balanced combination of these elements, the combination that makes it possible to achieve communication and marketing goals, so promotion is a set of activities to inform, persuade, remind and influence businesses can use conventional promotion methods or to use conventional methods in a new and innovative way[48].

The Carrington et al.[49] model provides a structure for the conduct of intentions, in particular the use of action plans as a mediator. The hope is that the purchasing condition would moderate the relationship between the purchase intentions and the creation of plans, as well as the relationship between plans and the PECB[50]. If the findings approve of the expectations, the buying condition would affect both of the suggested collaborations (Intent Plan and Plan–PECB) in such a way that a favorable situational context would facilitate the partnership and a negative situational context would undermine the relationship[49].

Due to the role of consumers in determining the effects of sustainability during the stages of use and disposal of the product, their overall behavior will strongly affect the sustainability performance of all products and services. For sustainability marketers, success depends on understanding consumer behavior during the consumption process. Consumers respond differently to products and services that differ in terms of these dimensions. A person who chooses sustainable options out of habit in his daily consumption, when buying a complex product[51]. Changing behavior is important in addressing social issues[52]. To minimize student absenteeism, we need to find ways to inspire students to go to classes. Any legislative tools may be used by governments to alter their actions. In easier words, they involve financial motivation, inhibition and ruling, intelligence, campaigns, and even points to encourage improvement in government behavior policy tools, which provide real opportunities[53].

Customer decision-making: Customer decision-making has a specific process that ultimately leads to the selection and purchase of products. In this research, customers' attitudes, intentions and behaviors of the decision-making process has been evaluated.

Attitudes: different disciplines like business, psychology and sociology focus more on customer attitudes (e.g.[54])[55]. How much an individual has a favorable or unfavorable behavior assessment is the degree of Attitude to Behavior. An optimistic mindset can result in greater determination in the performance of an operation[56]. The phenomenon in this analysis is the strength of a person's sense of benefit or disadvantage in the purchase of renewable goods[57]. Attitude is categorized into relative advantage, suitability, and complication for assessing attitudinal values. During distinguishing attitudes, attitudes can be assessed across issues related to relative benefit, compatibility, market identity and perceived harm. First, it would be weighed against the use of such renewable materials if it has a relative benefit.

This is a construction of the apprehended expense and benefits to customers[58]. If a commodity gives customers more benefits than prices, it is optimistic. An optimistic mindset triggers higher intentions for the purchase of products[57]. The further the notion of sustainable products suits their current ideals and

lifestyle, the more favorable the trend will be in case of sustainable products[56].

Intentions: For the individuals, possessing intentions means believing in the importance of what they want to do. Generally, objectives are not created on its own yet lead to intention. What is organizing this normality? How is shown? that the goal of an attempt is defined by the specification of the effort (I want to drink the water in this glass now, this year I desire to repeat my teachings next year, I want to help the fight against discrimination in my country, I intend to dance all the way to the grave, and so on). Secondly, tries not made that were not nullified, i.e., the operator did not wish to quit, indicate that the agent who had them was failing (though not strictly a fault). Ultimately, even forgotten or override purposes can make the agent lose if their occurrence is because of a lack of determination, an insufficient desire to keep going, or other factors. There are times when providing a function without the assistance of any meaning in the object comes at a cost. When agents believe this is the case, they will believe that there is worth in the attempt itself[59].

Sustainable consumption behavior (SCB): Sustainability was described by the World Commission on Environment and Growth as "development that meets the needs of the present without jeopardizing the ability of future races to meet their own needs." It was described as "a structure that governs various priorities, the economic interests of corporations and the environmental interests of society" (World Commission on Environment and Development, as quoted in Hunt[60]) [61]. Sustainable marketing was described by Dam and Apeldoorn [62] as "marketing inside, and encouraging of, sustainable economic growth." Sustainable consumption, trying to save the environment, is a core part of the recent macro-marketing literature. Sustainable consumption, which seeks to save the planet, is a central part of recent macro-marketing literature. It is clear that there is a transition from consumerism/traditional consumption to sustainable consumption. It is clear that there is a transition from consumerism/traditional consumption to sustainable consumption[63]. Present demand schemas are unsustainable, according to research, and has to be updated if civilization wants to remain healthy and at current demographic levels[64].

Unsustainable consumption has spawned a slew of responses, including sluggish consumption campaigns and anti-consumerism. Slow consumption, according to Pookulangara and Shephard[65], is described as movements that are not focused on time -as the term implies- but rather on wisdom that is aware of the needs of its stakeholders and the impact that development has on them and on ecosystems. They focus on more consumption of environmentally renewable raw materials, effective waste and pollution-reduction technologies, tracking food flow across the supply chain, and applauding shoppers who understand the environmental and social consequences of their purchases.

Such idioms with related conceptualizations have been used in previous studies like ecologically aware eating, green consumption, and pro-environmental practices (definitions of alternative terms for sustainable consumption)[66]. The majority of current studies indicate that there are two forms of sustainable consumption: conservation behavior (habitual SCB, voluntary simplicity, downshifting or slack) and sustainable purchasing behavior (energy-efficiency). Although all forms of sustainable use are associated since they are both energy-use mitigation strategies[64]. Sustainable purchasing behavior, on the other hand, was described as a form of behavior that typically includes long-term adjustments, technological and financial commitments, and takes more effort to carry out[67,5]. Ultimately, the majority of literature on environmental purchasing practices has overall concentrated on green commodity sales (products exhibiting sustainable attributes).

In general, the focus of this research on sustainable consumption behavior is on renewable resources, recyclable materials, low pollution and health of consumer products. In this regard, Jiang et al. [17] in their research entitled the effects of Covid-19 on the marketing and management of hotels have expressed the perspective of the industry in the current situation. Researchers recommend that you go beyond the usual views on hotel hygiene and cleanliness, and that guests pay attention to the cleanliness of certain hotel surfaces and pay more attention to marketing.

Based on the theoretical foundations, background, issue and objectives, the following hypotheses have been proposed for consideration in this study: H1: The prevalence of Covid-19 virus affects individual factors of customers. H2: The prevalence of Covid-19 virus affects social factors. H3: The prevalence of Covid-19 virus affects situational factors. H4: Individual factors of customers affect their attitude. H5: Social factors of customers affect their attitudes. H6: Situational factors of customers affect their attitudes. H7: Customers' attitudes affect their intention to buy. H8: Customers' intention to buy has effect on their SCB.

Figure-1 shows the conceptual model of the research that in the present study, this process has been investigated as a process for sustainable consumption behavior in the context of the Covid-19 crisis.
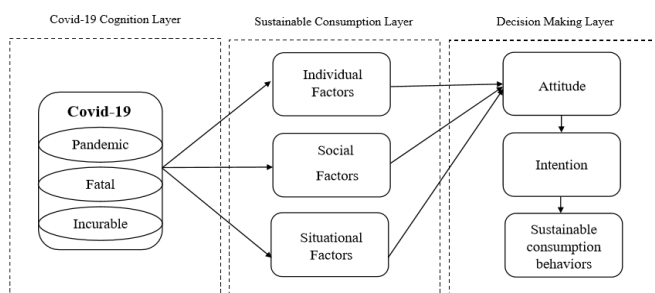

Figure-1: Conceptual model of research.

Methodology

This research is applied in terms of purpose and is among the descriptive-survey research that has been done cross-sectionally. Data were collected using a questionnaire tool in the fall of 2020 in Iran. The questions of the questionnaire were 47 questions that were made by the researcher and designed using the opinions of experts in this field.

The statistical population of this research consists of all customers of chain stores in Tehran. Statistical sample in this section, due to the large size of the statistical population and its unlimited size, 385 people using the Cochran's formula in the state of unlimited community, which were selected by random sampling method, samples were selected. In this regard, and to be more sure of the results, finally 1056 questionnaires were distributed, of which 56 questionnaires were excluded from the analysis due to difficulties in completing and incomplete information, and 1000 complete questionnaires remained for analysis, of which It was used to perform statistical analysis. Structural equation modeling method was used to analyze the data using Smart PLS software.

In this study, face validity, CVI index and construct validity (factor) were used to evaluate the validity of the questionnaire. The content and appearance (face) validity of the questionnaire was confirmed using the opinion of experts and the CVI index was 0.808 with the opinion of experts, which is more than 0.7, so the research questionnaire has good validity[68]. Also, the validity of the structure was evaluated using a confirmatory factor analysis model the results are presented in Tables 2 and 3 and indicate the appropriate validity of the questionnaire. In order to evaluate the reliability of the questionnaire, Cronbach's alpha test was used, the results indicate that the questionnaire has high reliability; So that the total reliability of the questionnaire is equal to 0.893.

The reliability of the variables is presented in the table below. Structural equation models are usually a combination of measurement models and structural models. For this purpose, the composite reliability measurement and the mean value of the extracted variance are calculated. Values greater than 0.5 are used for the amount of variance extracted (an important convergence index) and greater than 0.7 is used for the composite reliability. The calculated values for the research variables are described in the table below.

$$CVI = \frac{\sum CVR}{Number\ of\ remaining\ questions} = \frac{38}{47} = \frac{0}{808}$$

According to Table-1, the Cronbach's alpha value for all variables and the whole questionnaire is more than 0.7 and therefore the research questionnaire has good reliability. Also, the composite reliability for all variables is more than 0.7 and the AVE index is more than 0.5, which indicates the confirmation of the reliability of the research questionnaire.

Results and discussion

In this section, first the data distribution (normal or abnormal) is examined, then the confirmatory factor analysis done and finally the structural equation modeling and research hypotheses are investigated using Smart PLS software. Different methods are used to test the normality of the data. In this study, to evaluate the normality of variables, Kolmogorov-Smirnov test was used, the results of which are presented in the Table-2.

In the following, we must test the hypotheses. Smart PLS software was used to evaluate the studied model. Nonparametric tests are also used to estimate standard errors and test hypotheses. Nonparametric tests are also used to estimate standard errors and test hypotheses. The basic criterion for evaluating endogenous latent variables is the coefficient of determination R^2. The values (0.67, 0.33 and 0.19) for R^2 in PLS route models are high, medium and weak.

Table-1: Questionnaire specifications, reliability indices and convergent validity index.

Variables	Cronbach's alpha	Composite reliability	AVE	Indicators	Num of questions	Cronbach's alpha
Covid-19	0.883	0.811	0.541	Pandemic	2	0.853
				Fatal	2	0.804
				Incurable	2	0.895
Individual factors	0.802	0.805	0.630	Personal values	3	0.824
				Age	1	-
				Gender	1	-
				Knowledge	3	0.920
Social factors	0.749	0.729	0.529	Culture	3	0.737
				Media and Internet penetration	3	0.858
				Reference groups	3	0.793
				Norm and Social responsibility	3	0.729
Situational factors	0.919	0.842	0.825	Promotions	3	0.891
				Access and purchase location	3	0.945
				Sustainable purchase options	3	0.866
				Policies, Rules and Regulations	3	0.943
Attitudes	0.768	0.792	0.672	-	3	0.768
Intentions	0.896	0.831	0.688	-	3	0.896
SCB	0.923	0.776	0.599	-	3	0.923

Table-2: Investigating the normality of research variables.

Variable	Covid-19	Individual Factors	Social Factors	Situational Factors	Attitude	Intention	SCB
Number	1000	1000	1000	1000	1000	1000	1000
Kolmogorov-Smirnov Test	0.224	0.305	0/168	0/139	0/113	0/276	0.127
Significance factor (sig)	0.021	0.037	0.000	0.012	0.000	0.000	0.000

Each path coefficient in the PLS structural model can be considered equivalent to a standardized beta coefficient in ordinary least squares regressions. Covid-19 variable is an exogenous latent variable and other variables are endogenous latent variables. The results in two modes of significant number and path coefficient are shown in the following figure. The path coefficient results also show the effect of one structure on another.
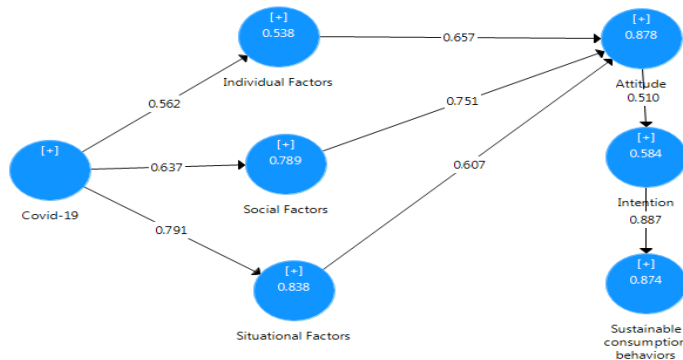

Figure-2: Model in the mode of path coefficients.

The results of significant numbers indicate the effect of one structure on another structure and its value to confirm a hypothesis at the level of 0.05 should be outside the range of 1.96 to -1.96. Therefore, according to Figure-3, the findings indicate that the significant coefficients obtained for the 8 research hypotheses are out of range and therefore all research hypotheses have been confirmed. In fact, Covid-19 had a significant effect on individual, social and situational factors of customers and these factors also had a significant effect on customer attitudes and the effect of attitude on customers' intentions and ultimately intention on customers' sustainable consumption behavior has been significant.

The path coefficient results also show the effect of one structure on another. According to Figure-2, the path coefficient obtained for all structures and the effect of each structure on the other structure is specified. Path coefficients for research structures show the direct and positive effect of structures on each other. The findings of the research hypotheses are summarized in Table-4.

Goodness of fit of Model: In this study, GOF index has been used to measure the fit of the structural model. Nevertheless, a general measure of good fit (GOF) has been proposed by Tenenhaus et al.[70]. This index considers both measurement and structural models. And is used as a measure to predict the overall performance of the model. This criterion is calculated as the geometric mean R^2 and the mean subscription.

$$GOF = \sqrt{Average(AVE) * Average\ R^2}$$

GOF values greater than 0.36 are very appropriate, moderate 0.25 and weak 0.1[71]; The obtained GOF value of 0.627 indicates that the studied model has good predictive power and has a good fit. Therefore, the findings confirm the overall validity of the model. Also, the value of R^2 is more than 0.5 and indicates the proper fit of the model.

Discussion: The spread of the corona virus has affected all companies, customers and the global community in some way and has had a profound effect on the behavior of businesses and humans. Among the important changes that have been considered in the consumption behavior of customers in this period, the tendency towards sustainable consumption behavior in order to increase human health and help the health of the environment and pay attention to the next generation.

Table-4: Results of models and hypotheses.

Hypotheses	Path coefficient	Significance coefficients	Result
The prevalence of Covid-19 virus affects individual customer factors.	0.562	10.700	Confirm
The prevalence of Covid-19 virus affects social factors.	0.637	17.252	Confirm
The prevalence of Covid-19 virus affects situational factors.	0.791	27.623	Confirm
Individual factors of customers affect their attitude.	0.657	17.924	Confirm
Social factors affect their attitudes.	0.751	21.188	Confirm
Situational factors affect their attitudes.	0.607	13.003	Confirm
Customers' attitudes affect their purchase intention.	0.510	7.929	Confirm
Customers' purchase intention has impact on their sustainable consumption behavior.	0.887	37.819	Confirm

Due to the novelty of the crisis, research in this area is limited and there are many gaps to identify changes in consumer behavior and pay attention to various components of sustainable consumption. Considering the necessity of the subject and the importance of chain stores in the supply of household consumer products, the present study was conducted to investigate the effect of Covid-19 virus on sustainable consumption behavior of customers in chain stores and by surveying customers' data in Iran. In this regard, in this study, the effect of Covid-19 on individual, social and situational factors of customers was measured and then, the effect of these factors on customer attitudes, then the intention of individuals and finally the effect of intention on sustainable consumption behavior of customers was measured. In this regard, the data were collected using a questionnaire in the fall of 2020 and analyzed using Smart PLS software.

The results and suggestions of this study helps, i. Different industries in recognizing changes in customer consumption behavior, especially chain stores to supply products desired by customers in order to satisfy them, ii. Manufacturers (suppliers) in order to produce products according to consumer behavior, iii. Officials are used to plan for the development of sustainable consumption behavior, especially in critical and competitive conditions, the outbreak of Covid-19 virus and helping the environment.

The findings of this study show that the research model has a good fit and the results are reliable. The results of the study of research findings are: i. The prevalence of Covid-19 virus with effect value of 0.562, 0.637 and 0.791 have significant effect on individual factors, social factors and situational factors of customers, respectively. ii. Individual factors, Social factors and Situational factors of customers with effect value of 0.657, 0.751 and 0.607 have significant effect on their attitudes, respectively. iii. Customers' attitude with a value of 0.510 has a significant effect on their purchase intention. iv. Customers' purchase intention with an effect value of 0.887 has a significant effect on their sustainable consumption behavior. The results obtained in this study are generally in line with the results of other researchers[7,21,23-25]; They found that the prevalence of Covid-19 virus affects consumption and consumption behavior and is more closely in line with the results of research by Yang, X.[5] and Cohen, M. J.[9].

Conclusion

In line with the results of research hypotheses, the following practical suggestions are presented: Based on the effect of Covid-19 virus on social factors, it is suggested that chain stores in the dangerous conditions of the virus, strengthen the online sales of their sustainable products and provide additional services, So that customers do not have to buy in person and through the media and with appropriate advertising in the field of sustainable products and charitable activities and in line with social responsibilities, have a positive effect on their customers

to attract them to buy sustainable products from their store. Many families are in a doubtful economic situation, and reducing profits and prices or providing gifts related to health along with food products and sending them to customers and consumers is another offer related to corporate social responsibility to help financially and attract customers' emotions.

Given the impact of situational factors on the Covid-19 virus crisis, it is suggested that, Chain stores attract customers by offering more incentives such as price discounts and prizes on sustainable consumer products. Also, by providing the products desired by customers, creating appropriate access for them and providing various sustainable shopping options in the store, to attract customer satisfaction.

Due to the influence of individual factors of customers from the Covid-19 virus crisis, it is recommended that chain stores offer their incentives and advertisements according to the age and gender of customers and according to their wishes. And gain their trust by providing information about products and increasing customers' knowledge about sustainable consumer products.

Based on the effect of individual, social and situational factors on customers 'attitudes and the effect of attitudes on intention and ultimately the effect on customers' sustainable consumption behavior, it is recommended that companies operating in the field of chain stores, review and change their marketing campaigns. In fact, companies have to adapt to the conditions in this period and run campaigns and advertising activities which is suitable in this condition. In fact, what is needed for companies in this era is the development of contingency marketing programs. Having accurate information from customers in this period will help a lot in the type of reaction of the organization. Information such as the type of purchases, the place of purchases, the amount of change in the volume of purchases, customer sensitivities, etc., is a great help to companies in developing appropriate marketing plans. And by recognizing customers, they can more easily provide the sustainable products they need. As the presence of customers and consumers in online areas has increased, it is recommended that companies enter these areas seriously. Therefore, one of the practical suggestions of this research is to develop connections with reputable online stores throughout the country and conclude sales contracts with them. Companies can also reduce their profits and offer discounts, especially on sustainable consumer products to customers in this period, lead customers to buy sustainable products and also attract customer satisfaction and create a good position for themselves among customers.

Also, these companies should consider the health sensitivity of customers in the current situation in all their actions and put the development of health culture at the forefront of their affairs in order to instill a proper perception of customers in terms of

health and mental health. It is only natural that consumers, and especially consumers, should be concerned about health issues in the current context, and organizations should address these concerns in a variety of ways. Among these activities, observing all health steps to present the product to customers or consumers and informing this issue through various media for customers and consumers. Due to the fact that various laws and restrictions have been implemented in different parts of the country, it is suggested that according to the type of effects of this disease in different parts of the country, appropriate strategies should be developed and on trends and behavioral changes in consumers.

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