

Factors Influencing Residents' Consumption Behavior of Health Care Products in the Post-Epidemic Era

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Abstracts

This study aims to analyze how the COVID-19 pandemic has influenced consumer behavior regarding healthcare products in Shandong Province, China. By integrating the Stimulus-Organism-Response (SOR) model and the Technology Acceptance Model (TAM), the study examines the roles of perceived risk, usefulness, ease of use, and advertising in shaping consumer healthcare consumption behavior. The research sample consists of urban residents in Jinan City, Shandong Province, China. A total of 772 questionnaires were distributed, and 770 valid responses were collected, representing a diverse demographic. Data were collected using a structured questionnaire and analyzed using Structural Equation Modeling (SEM) with AMOS 29 software. The analysis included confirmatory factor analysis, reliability and validity testing, and hypothesis testing, with model fit indices recalculated using the Bollen-Stine P-value correction method. The findings reveal that perceived COVID-19 risk significantly enhances the perceived usefulness of healthcare products, healthcare advertising positively influences both perceived usefulness and compliance tendency, and social pressure negatively affects perceived ease of use but increases risk perception. The study highlights the complexity of consumer behavior during public health crises and provides valuable insights for policymakers and marketers in designing effective health communication strategies.

Keywords: COVID-19; Consumer Behavior; Healthcare Products; SOR Model; TAM

Introduction

The global COVID-19 pandemic, beginning in 2019, has significantly impacted the well-being and health of residents worldwide, including China. Despite the global economy gradually returning to normal, the pandemic's repercussions persist, affecting daily lives and altering consumption patterns, particularly in health care products. Consumer behavior theories, advanced since the 1960s, now face the challenge of addressing changes brought by the COVID-19 pandemic. Scholars suggest that the pandemic has affected consumer consumption structures, channels, and brand preferences, especially regarding health care products and services. Increased anxiety and health consciousness prompted by the pandemic have led consumers to prioritize health management and related consumption.

Despite existing research on consumer health care consumption, there is a noticeable gap in understanding how public health emergencies like COVID-19 alter consumer behavior. Studies by Sheth (2020), Ahmed et al. (2020), and Rosenbaum et al. (2020) highlight the pandemic's significant impact on consumer health care consumption but lack comprehensive examination of the underlying mechanisms. Health care consumer products

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and services, including over-the-counter medicine, dietary supplements, personal protective equipment, and telehealth services, have become essential for self-managing health during the pandemic. This study aims to analyze consumer spending and behavior related to these products during and after the pandemic. By integrating the Stimulus-Organism-Response (SOR) model with the Technology Acceptance Model (TAM), this study quantitatively analyzes the pandemic's impact on consumer health care consumption. This approach enhances our understanding of consumer behavior changes during emergencies, providing theoretical and practical insights into how epidemics influence health care consumption.

Consumer health care consumption behavior serves as a pivotal entry point for extending consumer behavior research. Traditional studies focus on consumer psychology and actions in the marketplace but often overlook the complex interplay between consumer behavior and societal issues. Public health research has rarely examined how consumer behavior can be leveraged for disease prevention and control. This paper uses the COVID-19 pandemic to scrutinize the determinants of residents' health care consumption behavior in the post-epidemic era. Understanding the factors influencing health care consumption behavior after the COVID-19 pandemic is crucial for addressing specific social problems through consumer behavior analysis. As the world grapples with aging populations and heightened health awareness, countries emphasize public health. Frequent public health events have prompted nations to enhance their public health systems, with the COVID-19 pandemic serving as a stress test. This study provides valuable insights for shaping public health policies and guiding residents' health care consumption behavior in the post-epidemic era. The findings can help policymakers understand and address irrational health care consumption behaviors, reducing social management burdens and ensuring effective resource use during future public health emergencies.

Research Objectives

Based on the research background, the specific research objectives of this study are:

1) This study aims to investigate the impact of the epidemic on the tendency of the population's consumption behavior and analyze the factors that influence this tendency. Through these efforts, a deeper understanding of the epidemic's influence on consumption behavior can be achieved, and potential areas of intervention can be identified.

2) This study aims to elucidate the logical mechanism through which the COVID-19 pandemic has influenced consumer consumption behavior. Specifically, it examines the relationship between the external stimuli brought on by the pandemic and changes in consumer conformity behavior. It also seeks to verify the underlying mechanisms that connect these external stimuli to shifts in conformity.

3) Employing the Stimulus-Organism-Response (SOR) framework along with the Technology Acceptance Model (TAM), this study investigates how perceived value of health insurance affects the tendency for consistent consumption behavior among consumers in the later stages of the COVID-19 pandemic. Examining the influence of health insurance on consumer decision-making will elucidate its role in shaping consumer behavior throughout the course of the epidemic.

4) To examine how consumers' healthcare consumption behaviors change in the post-COVID-19 era, this study will investigate the relationship between consumers' perceptions of residential health care and their actual healthcare consumption behaviors.

Literature Review

The literature on consumer behavior and health care consumption has been enriched by studies on the impacts of public health emergencies, particularly the COVID-19 pandemic. This review integrates theories from economics, psychology, and sociology to explore changes in consumer behavior during the pandemic. It examines how factors such as income, education, media influence, and social pressures shape health care consumption. The review also highlights the relevance of models like the Stimulus-Organism-Response (SOR) and Technology Acceptance Model (TAM) in understanding consumer responses to health crises, providing a comprehensive overview of the current research landscape and identifying gaps for future studies.

1. Relevant Theoretical Foundations

Consumer behavior research covers the acquisition, use, and disposal of consumer goods, including decision-making processes (Engel et al., 1968). This field draws from economics, psychology, and sociology, emphasizing both rational and emotional aspects of consumer actions (Kotler, 2008; Solomon, 2005). Factors influencing consumer purchasing behavior include economic and social factors, product attributes, psychological traits, and situational factors (Arnould & Thompson, 2005; Blackwell et al., 2006). Epidemics like COVID-19 heighten health risk perceptions, influence information channels, and increase social pressure, affecting consumer behavior (Sheth, 2020; Jiang et al., 2022).

The Stimulus-Organism-Response (SOR) model, proposed by Woodworth (1929), extends Pavlov's (1927) stimulus-response model, considering how environmental stimuli affect individuals' cognitive and emotional states, leading to behavioral responses (Mehrabian & Russell, 1974). The SOR model's elements—stimulus, organism, and response—are used to analyze consumer behavior in various contexts (Vieira, 2012). The model has been applied to online shopping environments to understand how website stimuli influence consumer emotions and purchase intentions (Eroglu et al., 2001; Kim & Lennon, 2010).

The Technology Acceptance Model (TAM), developed by Davis (1989), builds on the Theory of Reasoned Action (TRA) by Ajzen and Fishbein (1977) to study individual behavioral intentions to accept and use technology. TAM focuses on perceived usefulness and perceived ease of use as primary factors influencing technology adoption (Davis, 1989). TAM has been widely used to study online shopping behavior, incorporating factors such as trust and perceived risk (Gefen, 2003; Heijden, 2003). TAM2, an extension of TAM, includes social influence and cognitive instrumental processes, further enhancing the model's explanatory power (Venkatesh & Davis, 2000).

2. Health Care Consumption

Health-care consumption expenditure refers to the monetary value residents spend on health-care services. It depends on the demand for health care consumption and the supply of health care services, driven by residents' willingness and ability to consume.

Research on factors influencing health care consumption has highlighted several key determinants. Income level significantly impacts health care expenditures, with higher income leading to higher spending on health services (Grossman, 1972; Newhouse, 1977). Education also plays a crucial role by increasing income and health knowledge, leading to higher allocative efficiency and better health investments (Kenkel, 1990). Population aging is another critical factor, with studies showing a positive correlation between the proportion of the elderly population and health care expenditures (Gerdtham, 1993; Matteo, 2005). Mass

media has been found to influence health care consumption by stimulating demand through advertising and information dissemination (Raju & Devi, 2012; Arafat et al., 2021). Finally, gender differences affect health care consumption, with females typically spending more on health services due to higher life expectancy and greater treatment needs (Goda et al., 2011).

3. Public Health Emergencies

Public health emergencies refer to sudden incidents like major infectious disease outbreaks and mass poisonings that seriously impact public health. Such events are characterized by their sudden onset, broad public impact, and severe consequences on public health, socio-economic development, and the environment (Winslow, 1920; Institute of Medicine, 2010).

Public health crises, such as Ebola, SARS, and COVID-19, have demonstrated profound effects on economies. For instance, the 2003 SARS outbreak significantly impacted economic growth, reducing GDP and investments across affected regions (Chou, 2004). The 2020 COVID-19 pandemic has further underscored the global economic repercussions, affecting consumption patterns, supply chains, and international trade (Kazunobu & Hiroshi, 2020; Kennedy, 2020).

The COVID-19 pandemic has caused unprecedented global disruption. It has led to economic downturns, changes in consumption behavior, and shifts in business models. The pandemic's impact on air quality has been notable, with significant reductions in pollution due to decreased industrial activity (He et al., 2020). Furthermore, the epidemic has highlighted the importance of global cooperation and comprehensive public health strategies (Wong et al., 2021).

4. Study on the Relationship between Public Health Emergencies and Consumption Propensity

Public health emergencies like the COVID-19 pandemic have a profound impact on consumer behavior. These events disrupt normal consumption patterns and can lead to significant economic downturns. During the early stages of the COVID-19 outbreak, sectors such as tourism, transportation, and retail experienced sharp declines due to reduced direct human contact and lowered consumer confidence (Monterrubio, 2010). For instance, China's retail, transportation, and hospitality sectors saw a substantial decline in value added during the first quarter of 2020, although a recovery was noted as the epidemic was brought under control (Kazunobu & Hiroshi, 2020). Major infectious disease outbreaks also introduce uncertainty about future employment and income, further dampening consumer confidence and altering long-term consumption preferences. Survey data from China during the COVID-19 pandemic showed a significant drop in per capita disposable income and consumer spending, although these figures improved as the epidemic was controlled (Wang et al., 2021).

Studies have shown that public health emergencies significantly affect mental health, causing anxiety, fear, and stress, which in turn influence consumption behavior (Cameron, 2020; Sherman, 2020). The perception of risk associated with COVID-19 drives consumers to prioritize safety and health, leading to increased spending on health-related products (Breakwell et al., 2021). This change in consumer behavior is supported by evidence showing that risk perception is positively associated with stress and influences emotional and psychological well-being (Loewenstein, 2001).

The COVID-19 pandemic has changed the way consumers obtain information about products, with a significant increase in the impact of online health advertisements. Studies have found that advertisements with positive emotional appeals and expert recommendations can effectively influence consumer attitudes and increase the perceived utility of health products (Wilson et al., 2020; Zimmerman et al., 2021). Social influence also plays a crucial role in shaping consumer perceptions and behaviors during public health crises. For instance, recommendations from authorities and key opinion leaders can enhance trust in health products and reduce perceived risks (Chen et al., 2022; Wang et al., 2021). Consumers' perceptions of the risks associated with health products can affect their overall evaluation of product attributes and their purchasing decisions. Higher perceived risks can lead to lower evaluations of a product's ease of use and utility, thereby inhibiting purchase intentions (Kumar & Nayak, 2021; Loxton et al., 2020).

Conceptual Framework

This study combines the SOR framework and TAM model to analyze the impact of epidemic severity, health care promotions, and others' behaviors on consumer perceptions and purchasing behaviors. It evaluates perceived usefulness, ease of use, and risk, examining changes in health care product consumption. The study aims to understand consumer responses to external stimuli during the pandemic and their effects on health care consumption patterns. The conceptual framework diagram is shown in Figure 1.

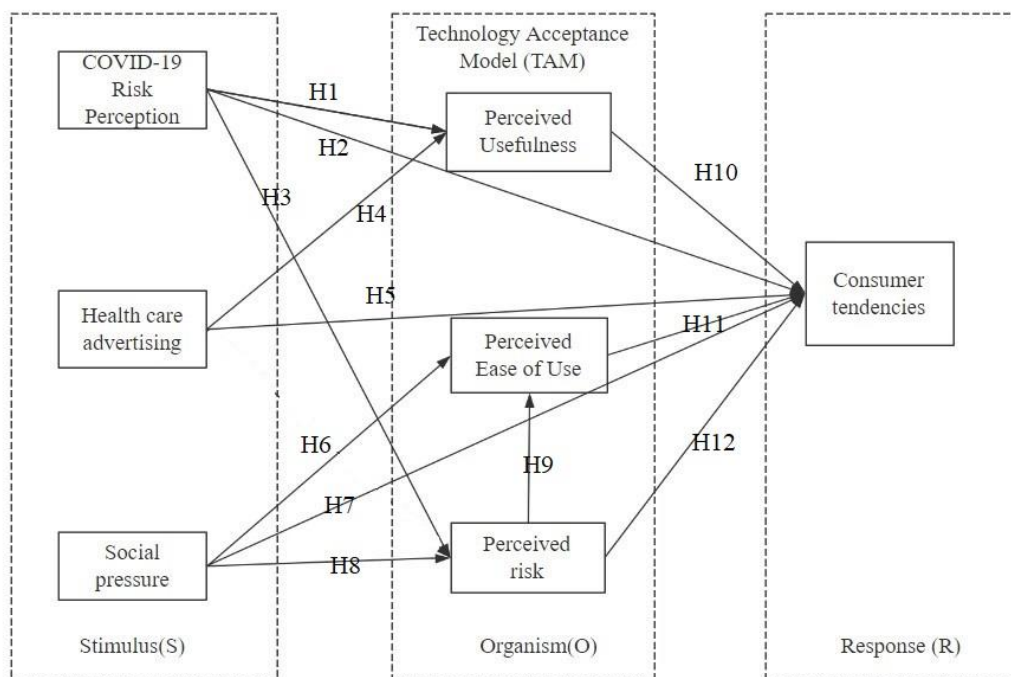


Figure 1 Conceptual Framework

Research Hypotheses

Based on the objectives of the study, the following alternative hypotheses were formulated in this study:

H1: Perceived risk of COVID-19 pneumonia significantly influences perceived usefulness of consumer healthcare consumption.

H2: Perceived risk of COVID-19 pneumonia significantly influences conformity tendency in healthcare consumption.

H3: Perceived risk of COVID-19 has a significant effect on perceived risk of consumer healthcare.

H4: Advertisements of healthcare products and services have a significant effect on consumers' perceived usefulness of healthcare consumption.

H5: Advertisements of healthcare products and services have a significant effect on the propensity to conform in healthcare consumption.

H6: Social pressure has a significant effect on perceived ease of use of consumer healthcare consumption.

H7: Social pressure has a significant effect on conformity tendency in healthcare consumption.

H8: Social pressure has a significant effect on consumers' perceived risk of healthcare consumption.

H9: Perceived risk of consumer healthcare consumption has a significant effect on perceived ease of use of consumer healthcare consumption.

H10: Perceived usefulness of healthcare consumption has a significant effect on the propensity to conform to healthcare consumption.

H11: Perceived ease of use in healthcare consumption has a significant effect on the propensity to conform in healthcare consumption.

H12: Perceived risk of healthcare consumption has a significant effect on the propensity to conform in healthcare consumption.

Research Scope

This study examines the impact of the COVID-19 epidemic on health care product consumption behavior in Shandong Province, focusing on Jinan City. The research encompasses three main areas: a literature review of consumption behavior changes during the epidemic, the development of a conceptual model using the SOR and TAM frameworks, and empirical testing through a questionnaire survey and SEM. Variables include epidemic severity, product promotion, and social pressure as external stimuli, with perceived usefulness, ease of use, and risk as mediating variables. The target population comprises Jinan's urban residents, and the study period spans from early 2020 to 2023, covering the pandemic and post-pandemic transition.

Research Methodology

1. Data Collection

This study collected data through a questionnaire survey, distributing 772 questionnaires and retrieving 770 valid responses. The questionnaire consisted of three parts: the first part collected respondents' basic demographic information (such as gender, age, and occupation); the second part included measurement items on variables such as COVID-19 risk perception, healthcare advertising, and social pressure; the third part collected information on consumers' healthcare product purchasing behavior during the pandemic. The scale has been certified by STIU-HREC059/2024.

2. Sample Characteristics Statistical Analysis

The collected data underwent statistical analysis to determine demographic characteristics, including gender, age, and occupation distributions. These analyses helped understand the representativeness and distribution of the sample, laying the foundation for subsequent data analysis.

3. Structural Equation Model Validation

AMOS 29 software was employed for structural equation modeling (SEM) analysis to evaluate the theoretical model's fit and the relationships between variables. A first-order confirmatory factor analysis was conducted on the overall scale to test model fit.

4. Reliability and Validity Testing

The reliability and validity of the questionnaire were assessed through tests of content validity, composite reliability, and convergent validity. Using AMOS 29.0 software, standardized factor loadings, Z-values, and P-values were calculated, along with measures such as average variance extracted (AVE) and squared multiple correlations (SMC). Post-correction, Bollen-Stine P-value correction was applied to recalculate model fit indices, ensuring the questionnaire's reliability and validity.

5. Hypothesis Testing

The proposed research hypotheses were tested using a structural equation model, and the path coefficients and significance levels between the variables were analyzed. The verification results of each hypothesis were presented through a path coefficient table, and the relationship between COVID-19 risk perception, healthcare advertising, social pressure, perceived usefulness, perceived ease of use, perceived risk, and consumer tendency was analyzed.

Data analysis

1. Population

The target population for this study consists of urban residents in Shandong Province, primarily focusing on the permanent residents of Jinan City. According to the 2023 Statistical Yearbook of Shandong Province, Jinan has an approximate resident population of 7 million. Jinan City was chosen due to its representativeness as the provincial capital, its developed economy, strong health awareness, and effective epidemic prevention measures, providing an ideal environment to observe changes in urban residents' health consumption behavior post-epidemic.

2. Model Fit

The study used the Bollen-Stine P-value correction method to recalculate the model's chi-square value and used the corrected chi-square value to compute the model fit indices. According to Table 1, after performing Bootstrap iterations using AMOS 29.0 software, the corrected average chi-square value was 605.46. The recalculated model fit

indices based on this chi-square value fully met the standards, indicating a good model fit. The specific indices were: CMID/DF at 1.36, GFI at 0.98, AGFI at 0.96, CFI at 0.99, TLI (NNFI) at 0.99, and RMSEA at 0.02.

Table 1 Model Fit

Index	Model Index	Standard	Summary
CMID/DF	1.36	Excellent if <3, Acceptable if <5	Excellent
GFI	0.98	Acceptable if >0.8, Good if >0.9	Good
AGFI	0.96	Acceptable if >0.8, Good if >0.9	Good
CFI	0.99	Acceptable if >0.8, Good if >0.9	Good
TLI(NNFI)	0.99	Acceptable if >0.8, Good if >0.9	Good
RMSEA	0.02	Excellent if <0.08, Acceptable if <0.1	Excellent

3. Construct Validity

Based on the computation results from AMOS 29.0 software, all items' non-standardized factor loadings are positive, with the ratio of non-standardized factor loadings to standard error exceeding 1.96, indicating significant P-values. The standardized factor loadings are greater than 0.50, except for item PEU1, which was deleted due to its low SMC value. The composite reliability (CR) values of each dimension exceed 0.60, demonstrating strong internal consistency and good composite reliability. The average variance extracted (AVE) values of the dimensions are close to or exceed 0.50, indicating good convergent validity for the scale. After modifications, the model shows improved fit indices and satisfactory reliability and validity, as reflected in Table 2.

Table 2 Composite Reliability and Convergent Validity

Variable	Item	Unstd.	S.E.	Z-value	P	std.	SMC	CR	AVE
New Crown Risk Perception	CRP1	1				0.730	0.533	0.731	0.476
	CRP2	0.892	0.056	15.983	***	0.722	0.521		
	CRP3	0.847	0.060	14.227	***	0.612	0.375		
Health care advertising	HA1	0.817	0.047	17.433	***	0.641	0.411	0.788	0.556
	HA2	0.915	0.044	20.692	***	0.754	0.569		
	HA3	1				0.829	0.687		
Social pressure	SP1	1.183	0.074	15.975	***	0.694	0.482	0.713	0.464
	SP2	0.762	0.065	11.689	***	0.484	0.234		
	SP3	1				0.748	0.560		
Perceived Usefulness	PU1	1				0.822	0.676	0.914	0.780
	PU2	1.130	0.036	31.336	***	0.917	0.841		
	PU3	1.146	0.037	30.974	***	0.908	0.824		
Perceived Ease of Use	PEU2	1				0.689	0.475	0.665	0.499
	PEU3	1.011	0.075	13.419	***	0.723	0.523		
	PR1	1.219	0.091	13.437	***	0.738	0.545		
Perceived risk	PR2	1				0.602	0.362	0.695	0.434
	PR3	1.048	0.084	12.517	***	0.628	0.394		
Consumer	CT1	1				0.796	0.634	0.890	0.62

tendencies	CT2	1.056	0.032	33.343	***	0.913	0.834	2
	CT3	0.950	0.033	28.500	***	0.828	0.686	
	CT4	0.827	0.034	24.113	***	0.744	0.554	
	CT5	0.527	0.040	13.219	***	0.637	0.406	

Note: *** indicates significance level below 1%, ** indicates significance level below 5%, * indicates significance level below 10%.

4. Discriminant validity

Discriminant validity focuses on distinguishing between variables, indicating low correlation and significant differences among latent variables. It is assessed by comparing the square root of the average variance extracted (AVE) with the correlation coefficients between variables. According to Fornell & Larcker (1981), good discriminant validity is indicated if the square root of a variable's AVE is greater than its correlations with other variables. As shown in Table 3, the square roots of AVE for all items within each dimension are higher than the correlation coefficients between that dimension and others, demonstrating good discriminant validity for the scale measuring residents' health product consumption behavior.

Table 3 Discriminant validity

	AVE	SP	HA	CRP	PR	PEU	PU	CT
SP	0.512	0.715						
HA	0.553	0.533	0.744					
CRP	0.519	0.694	0.378	0.721				
PR	0.531	0.395	-0.423	0.397	0.729			
PEU	0.505	-0.424	-0.369	-0.271	0.415	0.711		
PU	0.781	0.452	0.690	0.387	-0.257	-0.481	0.884	
CT	0.601	0.309	0.572	0.375	-0.438	0.259	0.579	0.775

Note: The bold numbers on the diagonal are the square roots of AVE, and the triangles below are the Pearson correlation coefficients.

5. Hypothesis test results

This study used AMOS 29.0 software to study the relationship between seven variables, namely, COVID-19 risk perception (CRP), medical advertising (HA), social pressure (SP), perceived usefulness (PU), perceived ease of use (PEU), perceived risk (PR), and consumer tendency (CT), to test the proposed hypothesis. The path coefficients of the research hypothesis are shown in Table 4. The model path diagram is shown in Figure 2.

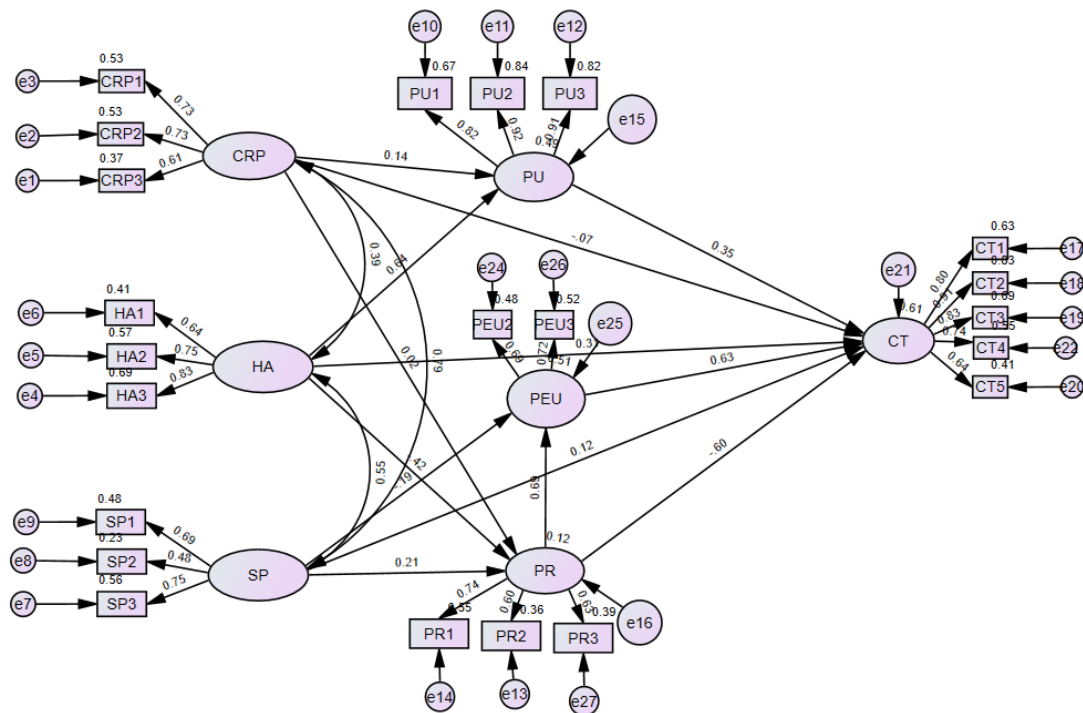


Figure 2 Model Path Diagram

Table 4 Model Path Coefficients

Hypothesis	Variable relationship	Standard (β)	C.R.	P	Verification Results
H1	CRP→PU	0.136	3.489	***	Accepted
H2	CRP→CT	-0.071	-0.897	0.370	Rejected
H3	CRP→PR	0.024	-6.389	0.823	Rejected
H4	HA→PU	0.637	14.340	***	Accepted
H5	HA→CT	0.312	4.855	***	Accepted
H6	SP→PEU	-0.190	-4.182	***	Accepted
H7	SP→CT	0.118	1.224	0.221	Rejected
H8	SP→PR	0.208	1.662	*	Accepted
H9	PR→PEU	0.689	10.451	***	Accepted
H10	PU→CT	0.345	6.949	***	Accepted
H11	PEU→CT	0.631	6.678	***	Accepted
H12	PR→CT	-0.598	-6.415	***	Accepted

Note: *** indicates a significance level of less than 1 percent, ** indicates a significance level of less than 5 percent, and * indicates a significance level of less than 10 percent.

The path analysis results reveal several significant relationships in the context of consumer healthcare consumption behavior during the COVID-19 pandemic. Firstly, the perception of COVID-19 risk has a significant positive effect on the perceived usefulness of healthcare consumption, with a standardized path coefficient of 0.136 and a C.R. value of 3.489, significant at the 0.001 level. This means that an increase in perceived COVID-19 risk positively influences the perceived usefulness of healthcare products. However, COVID-19 risk perception does not significantly impact the compliance tendency towards healthcare

product consumption or consumers' perception of risk in healthcare consumption, as indicated by path coefficients of -0.071 and 0.024 respectively, with non-significant P-values.

Healthcare advertising plays a crucial role in shaping consumer behavior. It significantly enhances the perceived usefulness of healthcare consumption (path coefficient of 0.637, C.R. value of 14.340) and positively influences the compliance tendency towards healthcare products (path coefficient of 0.312, C.R. value of 4.855), both significant at the 0.001 level. These findings underscore the importance of effective advertising in promoting healthcare products during a pandemic.

Social pressure has a nuanced impact on consumer behavior. It significantly negatively affects the perceived ease of use of healthcare consumption, with a path coefficient of -0.190 and a C.R. value of -4.182, significant at the 0.001 level. Conversely, social pressure does not significantly influence the compliance tendency towards healthcare products (path coefficient of 0.118, C.R. value of 1.224). However, it does positively affect consumers' risk perception of healthcare product consumption, indicated by a path coefficient of 0.208 and a C.R. value of 1.662, significant at the 0.1 level.

The perceived risk of healthcare products has a significant positive effect on their perceived ease of use (path coefficient of 0.689, C.R. value of 10.451), suggesting that higher perceived risk increases the perceived ease of use. This counterintuitive finding highlights the complexity of consumer risk assessment. Moreover, perceived usefulness and perceived ease of use both significantly positively influence the compliance tendency towards healthcare products, with path coefficients of 0.345 and 0.631, respectively, both significant at the 0.001 level. This indicates that when consumers find healthcare products useful and easy to use, they are more likely to comply with using them. Conversely, perceived risk has a significant negative effect on compliance tendency (path coefficient of -0.598, C.R. value of -6.415), suggesting that higher perceived risk reduces the likelihood of compliance.

In summary, the study's hypothesis results largely align with expectations, except for H2, H3, and H7. These findings provide valuable insights into how various factors influence consumer healthcare consumption behavior during the COVID-19 pandemic, highlighting the importance of perceived usefulness, ease of use, advertising, and social pressure in shaping consumer decisions.

Research Findings

This study's research findings provide insights into the factors influencing consumer healthcare consumption behavior during the COVID-19 pandemic. The perception of COVID-19 risk has a significant positive effect on the perceived usefulness of healthcare consumption, with a standardized path coefficient of 0.136. This indicates that increased perceived risk positively influences the perceived utility of healthcare products. However, COVID-19 risk perception does not significantly impact the compliance tendency towards healthcare product consumption or consumers' perception of risk in healthcare consumption.

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Discussion

This study highlights the significant factors influencing consumer healthcare consumption behavior during the COVID-19 pandemic. The findings show that the perception of COVID-19 risk significantly enhances the perceived usefulness of healthcare consumption, with a standardized path coefficient of 0.136. This aligns with the Protection Motivation Theory, which suggests that perceived threats drive protective behaviors (Rogers, 1975). As consumers became more aware of COVID-19 risks, they found healthcare products more useful.

Healthcare advertising significantly enhances both the perceived usefulness of healthcare products (path coefficient of 0.637) and the compliance tendency towards these products (path coefficient of 0.312). This underscores the powerful influence of effective advertising during a pandemic, supporting previous findings by Wilson et al. (2020) and Zimmerman et al. (2021). Effective advertising that communicates the benefits of healthcare products can significantly impact consumer behavior.

Social pressure negatively affects the perceived ease of use of healthcare products (path coefficient of -0.190) but positively influences consumers' risk perception (path coefficient of 0.208). This dual role highlights the complexity of social pressure in shaping consumer behavior. Increased social pressure may lead to stress and anxiety, making products seem less easy to use. However, it also raises awareness and vigilance, increasing risk perception.

Interestingly, perceived risk positively affects the perceived ease of use (path coefficient of 0.689). This counterintuitive finding suggests that higher perceived risk leads to increased attention to instructions, enhancing ease of use. This highlights the intricate nature

of risk assessment and its influence on consumer behavior.

Both perceived usefulness and perceived ease of use significantly positively influence the compliance tendency towards healthcare products, with path coefficients of 0.345 and 0.631, respectively. This aligns with the Technology Acceptance Model (Davis, 1989), which posits that perceived usefulness and ease of use are critical determinants of technology acceptance. Simplifying product usage and clearly communicating benefits can enhance consumer compliance.

These findings have significant implications for policymakers and marketers. Effective health communication strategies that enhance perceived usefulness and ease of use can drive the adoption of healthcare products. Advertising campaigns should focus on practical benefits and ease of use to alleviate consumer concerns and encourage compliance. Understanding the dual role of social pressure can help design interventions that leverage social influences positively.

In summary, this study provides valuable insights into the factors influencing consumer healthcare consumption behavior during the COVID-19 pandemic. The roles of perceived risk, usefulness, ease of use, and advertising highlight the complexity of consumer behavior in health crises, offering guidance for future research and practical applications.

Recommendations

1. Theoretical Recommendation

The findings of this study support the integration of the Stimulus-Organism-Response (SOR) model and the Technology Acceptance Model (TAM) for understanding consumer healthcare consumption behavior during public health crises. Future research should consider expanding these models to include additional variables such as emotional responses and social influences to better capture the complexity of consumer behavior in such contexts. Additionally, longitudinal studies could provide insights into how these behaviors evolve over time and the long-term impacts of public health emergencies on consumer behavior.

2. Policy Recommendation

Policymakers should develop and implement targeted health communication strategies that effectively convey the benefits and ease of use of healthcare products. This can enhance public trust and compliance during health crises. Regulations should also focus on ensuring the accuracy and reliability of health-related advertisements to prevent misinformation and build consumer confidence. Moreover, policymakers should leverage social influencers and community leaders to positively impact public perceptions and behaviors regarding healthcare consumption.

3. Practical Recommendation

Healthcare marketers should focus on advertising strategies that highlight the practical benefits and ease of use of their products. Clear, concise, and relatable messaging can significantly enhance consumer perceptions and drive compliance. Companies should also consider addressing social pressure in their campaigns by promoting a sense of community and shared responsibility in health management. Finally, providing detailed instructions and user-friendly designs can alleviate perceived risks and enhance the overall consumer experience, thereby fostering greater acceptance and usage of healthcare products.

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