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The Role of Service Quality Attributes and Perceived Value in US Consumers' Impulsive Buying Intentions for Fresh Food E-Commerce

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Abstract: Given the widespread adoption of fresh food e-commerce, this study aimed to explore the service quality attributes influencing utilitarian value, hedonic value, and impulsive buying behavior. A survey was conducted with 263 participants who had experience in purchasing fresh food online. Their responses were analyzed to test hypotheses using structural equation modeling. The findings reveal significant influences of information quality, ease of use, and problem resolution on utilitarian value. Additionally, ease of use, problem resolution, and trendiness were found to impact hedonic value. Problem resolution was a quality factor that affected both practical value and hedonic value, and its influence was found to be greater than that of other service quality factors. Hedonic value was also found to significantly affect impulsive buying behavior; however, utilitarian value did not exhibit a significant impact on impulsive buying behavior. The results provide useful theoretical and managerial implications in the field of fresh food e-commerce business.

Keywords: fresh food e-commerce; service quality; utilitarian value; hedonic value; impulsive buying behavior



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1. Introduction

With the remarkable developments in mobile technology and cold chain systems, fresh food e-commerce has become commonplace. The global food e-commerce market, valued at USD 138,833 million in 2019, is projected to grow to USD 1116 billion by 2031, with an anticipated compound annual growth rate (CAGR) of 18.97% over the forecast period [1]. The fresh food e-commerce market has been developing rapidly and is encountering increasingly fierce competition. Therefore, business entrepreneurs have to find ways to increase their market share and sales.

Ubiquitous technology enables consumers to buy anything via e-commerce, using a smartphone anytime and anywhere. This new technology allows consumers to receive quick responses to their needs [2]. According to Liu et al. [3] and Wu et al. [4], most online purchases are impulsive and unplanned. Marketers strategically design the shopping environment using packaging, store layout, and promotions to make consumers feel a sudden urge to purchase items without thorough consideration [5]. Impulsive buying often leads to additional sales and significantly higher revenue for businesses, as consumers make spontaneous purchases beyond their planned items.

Impulsive buying commonly occurs in fresh food shopping as well [5]. In contemporary society, the act of consuming food transcends mere sustenance; it has evolved into a reflection of lifestyle, encompassing a broader purpose beyond basic survival [6]. Fresh foods have been considered necessities, but recently they have taken on the role of experiential goods, discretionary goods, or even luxuries. As online food purchases continue to grow and outpace offline transactions, it becomes crucial to explore impulsive buying behavior in the online environment. Consumers' assessment of value not only creates

shopping motivation and successful shopping experiences [7], it also plays a significant role in shaping the decision-making process [8]. Value can be categorized into the two dimensions of utilitarian value and hedonic value [9]. Identifying which factors of service quality attributes are closely related to specific values will be helpful in meeting consumers' needs. It is also necessary to understand the role that values, by encouraging certain actions, play in impulse buying behavior.

However, little is known about impulsive buying behavior in online fresh food shopping. Most previous studies on impulse buying behavior do not specify product categories and address impulse buying in general shopping situations. Because impulse purchases can vary depending on the context in which a product is consumed, it is necessary to specify product categories in detail and study them accordingly. Additionally, while there are some studies on the impulse buying of fresh food, most have focused on offline stores, and research on online consumer behavior is insufficient. Moreover, fresh food is necessary for survival, but in modern society, it is also purchased for the experience of pleasure. Therefore, by studying the values that dominate the impulse purchase of fresh food, which has complex values of practicality and pleasure, we can obtain in-depth academic and practical insights into fresh food purchasing behavior. Thus, this study focused on fresh food e-commerce service quality attributes affecting impulsive buying intention. The aims of this study were (1) to identify the fresh food e-commerce service quality attributes influencing consumers' perception of utilitarian and hedonic value and (2) to determine the relationships between utilitarian/hedonic value and impulsive buying intention.

2. Literature Reviews

2.1. Fresh Food E-Commerce Service Quality Attributes

Most research has concentrated on determining the fresh food e-commerce service quality attributes that meet consumers' expectations and needs. Lee et al. [10] considered system quality, service quality, product quality, economic efficiency, and brand characteristics as the key attributes of fresh food online shopping and explored how these factors influence customer satisfaction. Kang and Namkung's [11] study, which developed a service quality scale, found that information quality, price, product assortment, problem resolution, delivery quality, ease of use, and trendiness were the important dimensions for satisfying consumers' needs. Singh and Söderlund [12] examined how system quality, service quality, brand experience, product quality, and delivery quality affect repurchase intention. Ma et al. [13] regarded consumer support, product quality, return/exchange, and delivery quality as the factors determining the service quality of fresh food online shopping and examined their effectiveness in increasing repurchase intention. Wang and Hong [14] investigated the influence of information quality, system quality, service quality, and product quality on consumer satisfaction. However, the service quality factors for fresh food e-commerce have not been clearly defined. Therefore, this study applied the information system (IS) success model to select service quality factors. The IS success model emphasizes information quality, system quality, and service quality in the context of IT usage [15].

In the current study, "trendiness" was considered a service attribute. An assortment of trendy products could be a strategy to make consumers aware of a firm's image as trendy and innovative. Moreover, offering trendy and up-to-date products is a way to retain consumers [16] and motivates consumers to share positive word of mouth [17]. Pahor et al. [18] indicated the importance of offering new arrivals and trendy products to trigger impulsiveness in consumers. Kim and Kim [19] identified that when consumers use fresh food delivery platforms, they have an emotional experience, are aware of trends, and expect such systems to change their lifestyle. Therefore, in this study, the service quality factors were composed of information quality, ease of use (system quality), problem resolution (service quality), and trendiness.

2.2. Utilitarian Value and Hedonic Value

In the words of Holbrook [20], “consumer value is the foundation for all marketing” and “the fundamental basis for successful marketing”. Consumer value can be viewed as an outcome shaped significantly by the personal perceptions of consumers, which are influenced by their experiences [21]. Consumer value plays a crucial role as a predictor of consumer behaviors such as trust, satisfaction, repurchase, loyalty, and e-WOM [22–24]. Consumer values can be categorized into two dimensions: utilitarian and hedonic. Utilitarian value pertains to the practical, task-oriented aspects of shopping, emphasizing the efficient acquisition of products [25]. In contrast, hedonic value is created by emotional benefits, pleasure, and enjoyment derived from the shopping experience and is related to psychological aspects rather than task completion [26]. Utilitarian value provides a more objective assessment of a product. The greater the benefits customers receive from e-commerce, the more satisfied they will be. Hedonic value is more subjective and personal, focusing more on enjoyment than on task completion [27]. Practical and objective attributes such as a wider selection, efficiency, convenience, and cost savings are determinants of consumers’ utilitarian motivation for online shopping. Consumers’ experiential and emotional attributes, such as adventure/exploration, gratification, social interaction, and inspiration, constitute their hedonic motivation for online shopping [28].

Both utilitarian and hedonic values are fundamental to understanding consumers’ evaluations of their consumption experiences and consistently underpin the phenomenon of consumption [29]. Redda [28] verified the role of utilitarian and hedonic motivations in creating attitudes towards online shopping. Evelina et al. [27] mentioned that utilitarian and hedonic value provided by e-commerce products will lead to customer satisfaction. Xu et al. [30] identified that consumers’ perceived usefulness, ease of use, and intention to continue using information technology are influenced by their perceived levels of utilitarian and hedonic value. Thus, we focused on both utilitarian and hedonic value in this research to understand impulsive buying behavior.

2.3. Impulsive Buying Behavior

Impulsive buying is a behavior that is not consciously planned for but arises immediately upon exposure to a stimulus [5]. When consumers feel the impulse to buy, they tend to make a decision without deliberate and thorough searches about products and alternatives [31]. Since the rise of e-commerce, researchers have been exploring whether impulsivity is manifested in this new shopping environment. Impulsive buying behavior is usually explained by drawing on the S-O-R (Stimulus–Organism–Response) framework. Many studies have revealed the various stimuli that cause impulsivity. Online environments, including information quality and service interaction quality, are important factors in impulsive buying [23,32,33]. Chen et al. [34] suggested that product-related information, such as vicarious expression and aesthetic appeal, triggers impulse buying in social commerce. In addition, Ampadu et al. [35] and Halim et al. [36] argued that text-based information and image-based content such as photos and virtual materials can induce consumer impulsiveness. Given that e-commerce relies on technology, system characteristics are also considered significant factors influencing impulse purchase. An easy payment system, intuitive interface design, and seamless navigation and search capabilities [32,33,36] enable consumers to make purchases effortlessly and encourage impulsive buying. Interactivity and social influence are additional external drivers of impulsive buying [5,32]. In research on food product e-commerce, Deokule and Katole [37] found that product descriptions, such as brand, product delivery information, and virtual product presentation, led to impulsive online purchases of food ingredients.

3. Conceptual Model and Hypothesis Development

3.1. Fresh Food E-Commerce Service Quality Attributes and Perceived Values

According to previous studies, quality is a key driver of value perception. Utilitarian value emphasizes the efficiency of obtaining desired information on the website [23]. Kim

and Han [38] found positive relationships between information quality and utilitarian value. Since information quality helps in efficient decision-making, high-quality information is strongly linked to practical aspects that improve the efficiency of the shopping process [39]. Consumer satisfaction with a flexible and easy return process reflects consumers' holistic subjective assessment of their experience, viewed from a consumer-centric perspective. An easy return policy also has practical value by mitigating the risk of financial loss for consumers [40]. Perceptions of the convenience of online technology enhance the usefulness of completing the shopping task and make the shopping process more appealing due to its ease of use [41]. Seo and Lee [42] argued that an easy shopping environment creates utilitarian value. Olsen and Skallerud [43] found that grocery store attributes had differential effects on utilitarian and hedonic value. Among retail attributes, product variety, store environment, and customer interaction are significantly associated with utilitarian values. Based on these previous studies, we hypothesized the following:

H1-1. *Information quality has a positive effect on utilitarian value.*

H1-2. *Ease of use has a positive effect on utilitarian value.*

H1-3. *Problem resolution has a positive effect on utilitarian value.*

H1-4. *Trendiness has a positive effect on utilitarian value.*

Im et al. [44] asserted that visually appealing content, such as image-based and video-based information, provides consumers with greater pleasure compared to low-quality information. A complex online service causes displeasure, while an easy system boosts enjoyment and leads to comfort when using information systems [23]. The online refund process can be stressful for consumers due to uncertainties about receiving refunds, leading to anxiety [40]. Implementing an easy refund and exchange policy can alleviate consumer stress and remove barriers to shopping, thereby influencing positive emotional responses. Consumers perceive coolness and novelty in products with trendy, appealing, fascinating, and attractive features, which in turn leads to the perception of hedonic value and positive affective consumer reactions [45]. Based on these previous studies, we formulated the following hypothesis:

H2-1. *Information quality has a positive effect on hedonic value.*

H2-2. *Ease of use has a positive effect on hedonic value.*

H2-3. *Problem resolution has a positive effect on hedonic value.*

H2-4. *Trendiness has a positive effect on hedonic value.*

3.2. Consumer Value and Impulsive Buying Behavior

Consumer value is a critical factor influencing consumers' purchasing behavior [46]. As in the Stimuli–Organism–Response (S–O–R) framework, consumers' perceived value is not only closely related to the shopping environment but also affects shopping behavior [2]. In the context of impulsive buying behavior, consumer value is expected to play a significant role. Eriksson and Stenius [47] argued that consumers seeking economic value are less impulsive, whereas those pursuing novelty tend to be more impulsive in their shopping experiences. Impulsive purchases satisfy consumers' emotional needs [25]. Yang et al. [2] and Zheng et al. [9] demonstrated the differential influence of utilitarian and hedonic values on impulsive buying behavior. In their research, only hedonic value, not utilitarian value, was found to be related to impulsive buying. Similarly, Chung et al. [48] found that the urge to make impulsive purchases of restaurant products on social commerce platforms

was significantly influenced by hedonic shopping value, while utilitarian value did not show such an impact. Thus, the following hypotheses were proposed:

H3. *Utilitarian value has a negative effect on impulsive buying intention.*

H4. *Hedonic value has a positive effect on impulsive buying intention.*

According to the proposed hypotheses, we propose the theoretical framework of the current study in Figure 1.

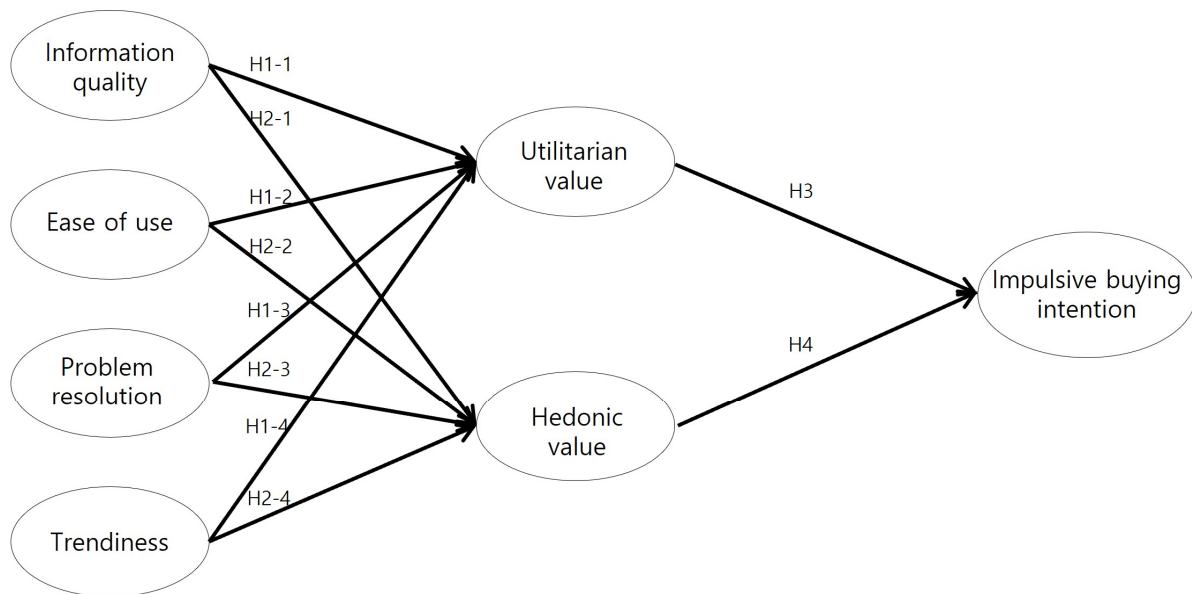


Figure 1. Research Model.

4. Methodology

4.1. Sampling and Data Collection

The data were gathered from 2 December 2023 to 9 December 2023 via the online survey platform Survey Monkey. An online questionnaire was created on SurveyMonkey.com, and its link was distributed by an online research company to its US panel to collect data. The survey targeted US consumers who had experience of purchasing fresh food (e.g., vegetables, fruits, dairy, meats, and etc.) through e-commerce, such as Amazon Fresh and Fresh direct, within the past month. In this study, online food stores were those that delivered food, including fresh items such as vegetables, fruits, meat, and fish, on the same day or the next day. In total, 300 participants filled in the questionnaire, and incomplete and inappropriate answers were then eliminated. By using screening items to select respondents with experience in purchasing fresh food via e-commerce (e.g., “Select all the items you have recently purchased using fresh food e-commerce”, “Which online store have you purchased fresh food (e.g., vegetables, fruits, dairy, meats, and etc.) from?”), a total of 263 responses were retained for analysis to test our hypotheses.

4.2. Measurement Items

All the items were measured using a 7-point Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree). “Information quality”, which refers to the consumer’s overall perceived value of information and content, assessed by the degree of accuracy, usefulness, reliability, and comprehensibility of the information provided by fresh food e-commerce, was measured using four items drawn from Kim and Niehm [49]. “Ease of use” is the extent to which a consumer believes that purchasing fresh food through e-commerce will be free of effort in ordering and paying. It was measured with four items

from Davis [50]. “Problem resolution”, defined as the degree to which a fresh food platform solves consumers’ problems immediately and quickly and willingly handles returns and exchanges, was measured using four items adopted from Kang and Namkung [11] and Wolfenbarger and Gilly [51]. “Trendiness”, which is the consumer’s perception of the extent to which e-commerce offers trendy products or food ingredients, was measured using four items drawn from Yadav and Rahman [17] and Kang and Namkung [11]. “Utilitarian value” refers to the practical or functional benefits that a fresh food e-commerce service or experience provides. It was measured with four items from Hashmi et al. [25]. “Hedonic value”, defined as the aesthetic, experiential, and enjoyment outcomes of emotional experiences, encompassing qualities that impact overall satisfaction, was measured with three items adopted from Hashmi et al. [25]. “Impulsive buying intention” is defined as the extent to which one is likely to make unplanned, instantaneous, and unreflective purchases. It was measured using four items from Gulfranz et al. [32].

5. Results

5.1. Profile of the Respondents

Of the 263 respondents, 34.2% were male and 65.8% were female. The majority of the respondents were in their 30s (40.3%), followed by those in their 40s (28.9%), 20s (19.8%), and those aged over 50 years (11.0%). Most of the respondents used Amazon Fresh (90.9%), and 9.1% usually used Fresh Direct. With regard to the frequency of online fresh food buying, 46.4% of the respondents purchased fresh food online 2–3 times a week, followed by those who purchased 4–5 times a week (29.7%), less than once a week (13.3%), and more than 6 times a week (10.6%). More detailed information about the respondents is presented in Table 1.

Table 1. Profile of the respondents (N = 263).

Demographics	N	%	Demographics	N	%
Gender			Online fresh food platform		
Male	90	34.2	Amazon Fresh	239	90.9
Female	173	65.8	Fresh direct	24	9.1
Age			Frequency of buying fresh food online		
20s	52	19.8	Less than once a week	35	13.3
30s	106	40.3	2–3 times a week	122	46.4
40s	76	28.9	4–5 times a week	78	29.7
50s or older	29	11.0	More than 6 times a week	28	10.6
Education			Marriage status		
High school diploma	12	4.6	Single, not married	35	13.3
College diploma	27	10.3	Married	223	84.8
Bachelor’s degree	216	82.1	Other (Living with partner, divorced, etc.)	5	1.9
Graduate degree or higher	8	3.0			
Occupation			Income		
Employed full-time	236	89.7	Less than \$49,999	27	10.3
Employed part-time	5	1.9	\$50,000–\$74,999	117	44.5
Self-employed	13	4.9	\$75,000–\$99,999	72	27.4
Homemaker	3	1.1	\$100,000 or more	47	17.9
Student	1	0.4			
Unemployed	3	1.1	Total	263	100
Other	2	0.8			

5.2. Assessment of Reliability and Validity

SPSS and AMOS were used for data analysis. As presented in Table 2, Cronbach’s α was used as the measurement of reliability. For the nine variables of the measurement scale, Cronbach’s α ranged from 0.756 to 0.895, above the recommended threshold of 0.7 [52]. The measurement items were subjected to confirmatory factor analysis (CFA)

to evaluate internal reliability and validity. Overall, the measurement model achieved good fit (CMIN/DF = 1.313, CFI = 0.975, GFI = 0.891, IFI = 0.976, NFI = 0.905, RMSEA = 0.035). The composite reliability of the research constructs, indicating the internal consistency of multiple indicators for each construct, ranged from 0.776 to 0.881, exceeding the recommended threshold of 0.6. The factor loadings of all items were greater than 0.50 and Average Variance Extracted (AVE) for values ranged from 0.516 to 0.650; hence, convergent validity was confirmed [53]. The discriminant validity of items was inspected by comparing the square root of the AVE and the correlations among the variables [53]. If the square roots of the AVE for each construct are greater than the correlations between that construct and other constructs, discriminant validity is considered to be achieved. However, the correlations between hedonic value and problem resolution and hedonic value and trendiness were higher than the lowest AVE value (Table 3). Therefore, two standard-error interval estimates were used to clarify the discriminant validity [54]. If the correlation plus or minus two standard errors includes the value 1, discriminant validity is not supported. The associated confidence intervals were 0.643 to 0.852 (hedonic value–problem resolution) and 0.603 to 0.859 (hedonic value–trendiness). Hence, discriminant validity was supported for all pairs of dimensions.

Table 2. The results of confirmatory factor analysis.

Variables (Cronbach's Alpha)	Standardized Estimate	C.R.	AVE	Mean	Standard Deviation
Information quality (0.833)				5.9249	0.771
The product information on this online store is easy to understand.	0.697	0.850	0.587	5.992	0.891
This online store offers accurate product information.	0.739			5.8403	1.010
This online store offers useful product information.	0.783			5.9506	0.954
This online store offers reliable product information.	0.766			5.9163	0.921
Ease of use (0.857)				5.8555	0.756
This online store's layouts are easy to use.	0.784	0.881	0.650	5.8365	0.865
It is easy to purchase fresh food on this online store.	0.761			5.7985	0.917
Consumers can search the items quickly on this online store.	0.805			5.9354	0.929
It is easy to order items on this online store.	0.752			5.8517	0.902
Problem resolution (0.859)				5.812	0.804
This online store willingly handles returns and exchanges.	0.760	0.810	0.516	5.833	0.909
This online store returns and exchanges products immediately.	0.746			5.761	0.988
The online store solves customers' problems quickly.	0.812			5.818	1.010
This online store operates a reasonable return policy.	0.791			5.837	0.925
Trendiness (0.863)				5.788	0.803
There is a variety of fresh food reflecting hot trends.	0.801	0.875	0.636	5.837	0.945
There is a variety of new food ingredients.	0.748			5.692	0.977
There is a variety of trending fresh food.	0.782			5.764	0.960
I can get information about new food products and brands.	0.802			5.869	0.932

Table 2. Cont.

Variables (Cronbach's Alpha)	Standardized Estimate	C.R.	AVE	Mean	Standard Deviation
Utilitarian value (0.827)				5.923	0.754
Online fresh food shopping is useful.	0.762	0.850	0.588	5.867	0.933
Online fresh food shopping has advantages.	0.660			5.913	0.938
Online fresh food shopping is efficient.	0.709			5.913	0.939
Online fresh food shopping is more convenient than other ways.	0.830			6.015	0.908
Hedonic value (0.756)				5.809	0.793
Online fresh food shopping is always exciting for me.	0.795	0.776	0.537	5.860	0.949
Compared to other things, the time spent on online fresh food shopping is truly enjoyable.	0.653			5.810	0.989
I have fun when I shop for fresh food at this online store.	0.705			5.802	0.949
Impulsive buying intention (0.895)				5.383	1.169
While browsing on this online store, I buy what I like without thinking about the consequences.	0.773	0.828	0.546	5.376	1.376
While browsing on this online store, I buy fresh food according to how I feel at that moment.	0.812			5.331	1.281
If I see something new on the online store, I want to buy it.	0.859			5.437	1.352
I find it difficult to pass up a bargain on the online store.	0.860			5.388	1.351

Table 3. Correlations matrix among the latent constructs.

	1	2	3	4	5	6	7	√AVE
1	1.00							0.766
2	0.512	1.00						0.806
3	0.537	0.667	1.00					0.718
4	0.632	0.631	0.697	1.00				0.798
5	0.614	0.627	0.688	0.614	1.00			0.767
6	0.557	0.683	0.748	0.747	0.715	1.00		0.733
7	0.251	0.423	0.511	0.472	0.423	0.641	1.00	0.739

Notes: 1: Information quality; 2: Ease of use; 3: Problem resolution; 4: Trendiness; 5: Utilitarian value; 6: Hedonic value; 7: Impulsive buying intention.

To check for common method bias, a single-factor test was conducted using CFA. If common method bias were present, all items would load onto a single factor. The results indicate that the seven-factor model (CMIN/DF = 1.313, CFI = 0.975, IFI = 0.976, NFI = 0.905, RMSEA = 0.035) fitted the data significantly better than the single-factor model (CMIN/DF = 4.745, CFI = 0.684, IFI = 0.686, NFI = 0.633, RMSEA = 0.120), suggesting that common method bias was not a concern.

5.3. Structural Model Results

Table 4 shows the structural results of the proposed model with standardized path coefficients for significant relationships. The structural model indicated an acceptable fit to the data (CMIN/DF = 1.343, CFI = 0.972, GFI = 0.895, IFI = 0.973, NFI = 0.901, RMSEA = 0.036). Information quality ($\beta = 0.270$; $t = 3.367$; $p < 0.000$), ease of use ($\beta = 0.208$; $t = 2.444$; $p < 0.05$), and problem resolution ($\beta = 0.372$; $t = 3.808$; $p < 0.000$) had significant effects on utilitarian value, supporting H1-1, H1-2, and H1-3. However, trendiness ($\beta = 0.062$; $t = 0.644$; n.s.) had no significant effects on utilitarian value, not supporting H1-4. With regard to hedonic value, ease of use ($\beta = 0.259$; $t = 3.134$; $p < 0.01$), problem

resolution ($\beta = 0.366$; $t = 3.908$; $p < 0.000$), and trendiness ($\beta = 0.327$; $t = 3.418$; $p < 0.000$) had significant effects on hedonic value, supporting H2-2, H2-3, and H2-4, whereas information quality ($\beta = 0.005$; $t = 0.071$; n.s.) did not significantly affect hedonic value. Hedonic value significantly affected impulsive buying intention ($\beta = 0.683$; $t = 6.583$; $p < 0.000$), supporting H4. On the other hand, utilitarian value was not significantly related to impulsive buying intention ($\beta = -0.040$; $t = -0.460$; n.s.), not supporting H3.

Table 4. Standardized parameter estimates.

	Hypothesized Path	β	t	p -Value	Results
H1-1	Information quality \rightarrow Utilitarian value	0.270	3.367	0.000 ***	Supported
H1-2	Ease of use \rightarrow Utilitarian value	0.208	2.444	0.015 *	Supported
H1-3	Problem resolution \rightarrow Utilitarian value	0.372	3.808	0.000 ***	Supported
H1-4	Trendiness \rightarrow Utilitarian value	0.062	0.644	0.519	Rejected
H2-1	Information quality \rightarrow Hedonic value	0.005	0.071	0.943	Rejected
H2-2	Ease of use \rightarrow Hedonic value	0.259	3.134	0.002 **	Supported
H2-3	Problem resolution \rightarrow Hedonic value	0.366	3.908	0.000 ***	Supported
H2-4	Trendiness \rightarrow Hedonic value	0.327	3.418	0.000 ***	Supported
H3	Utilitarian value \rightarrow Impulsive buying intention	-0.040	-0.460	0.645	Rejected
H4	Hedonic value \rightarrow Impulsive buying intention	0.683	6.583	0.000 ***	Supported

*** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$.

6. Discussion

6.1. Conclusions

Our results show the different influences of service quality attributes on utilitarian and hedonic values. Our first finding is that accurate, easily understandable, and readable information is closely associated with goal-oriented value, as it enhances product comprehension and facilitates consumption. Information serves as a tool to help with the decision-making process and assists in evaluating alternatives, as in Gao et al. [39]’s research. On fresh food e-commerce platforms, most information provided is about nutrition, calories, volumes, and prices. Because this information is objective, consumers do not see it as intended for entertainment.

Second, ease of use is a key influence on both utilitarian and hedonic value. This finding aligns with the study conducted by Akdim et al. [55]. Consumers will experience enjoyment and efficiency in using fresh food e-commerce when they find it easy to access, convenient to navigate and order, and well-structured. Consumers do not feel nervous or stressed when using a user-friendly system.

Third, problem resolution, involving refund and return policies with guarantees, enhances both utilitarian and hedonic value, as it can alleviate perceived risks and minimize financial losses. According to Martínez-Lopez et al. [40], the instant refund service is closely related to both monetary and non-monetary costs, and it can significantly influence consumer satisfaction with the online return experience. Return and exchange services enhance the utility value for consumers by mitigating the emotional risk associated with unsuccessful shopping experiences. It is assumed that the provision of easy return and exchange services may serve as a stimulus for impulse purchases, acting as a mechanism to alleviate the “regret” (cognitive dissonance) that often arises after the purchase phrase.

Fourth, trendiness is related to hedonic value. This finding is consistent with that of Kristian and Napitupulu [56], who found a significant relationship between trendiness and hedonic value. It indicates that the search for contents or products reflecting current trends is a dominant factor in satisfying consumers’ emotional needs. When consumers find trendy products on e-commerce platforms, they may impulsively purchase them to seek pleasure and novelty.

On the other hand, trendiness does not increase utilitarian value. It seems that trend-based products enrich consumers’ lifestyles, but they are not essential for meeting basic needs such as hunger, health, and survival. The study’s findings echoed previous re-

search [45], demonstrating that individuals experience interest and enjoyment with new and trendy products or stores, highlighting this as a direct contributor to hedonic value.

Lastly, impulsive purchase intention highly depends on emotional value, and the goal of shopping is not necessarily to acquire a necessity. The results are consistent with the research conducted by Yang et al. [2], Lee and Wu [57], and Budiman et al. [58]. Since utilitarian value is derived through rational thinking, it does not significantly influence impulsive buying intention.

6.2. Theoretical Implications

There are several theoretical implications. First, despite the increasing research on impulsive buying behavior, only a limited number of studies have attempted to explore impulsiveness in the specific context of fresh food e-commerce. To date, research on impulse buying behavior has rarely focused on specific product categories [23,32,33,35]. Because unique characteristics vary depending on product categories such as food, electronics, and fashion, it is necessary to classify by product category and examine consumer behavior. Although there have been studies on impulse buying behavior in organic or fresh food shopping, most have focused on offline stores [5,6,59]. This study has theoretical implications, as it uncovers the factors that promote impulse buying in an online environment by examining the impulse buying behavior of fresh food online. This research contributes to understanding impulsive buying behavior in fresh food e-commerce and lays the foundation for future research.

Second, this study examined which service quality factors of online fresh food e-commerce affect utilitarian value and hedonic value. The findings revealed that different service quality factors influence utilitarian and hedonic values. Some factors (problem resolution and ease of use) had common effects on both types of values, while others affected only one type of value. Specifically, problem resolution and ease of use are believed to affect impulsive buying through the dual process of cognitive and emotional responses.

Third, this research considered both cognitive perception and emotional perception in the impulsive decision-making process. Thus, the relative influence of utilitarian value and hedonic value on impulsive buying intention could be compared. The research results indicate that consumers engage in impulse buying behavior to satisfy emotional needs, such as pleasure and stress relief. Even when purchasing fresh food, typically considered a routine consumption activity [11], consumers tend to seek hedonic value and make impulsive purchases.

Fourth, in this study, by considering “trendiness” as a service quality factor of e-commerce that has not been well addressed so far, a theoretical basis has been established suggesting the necessity of understanding the role of trendy products in e-commerce and fresh food purchasing behavior. It was found that trendiness plays a role in satisfying consumers’ joy, fun, pleasure, and interest, and it must be considered important for a successful shopping experience. Based on this result, it is assumed that trendiness can influence not only impulse buying behavior but also planned buying behavior, satisfaction, and purchase intention, which are key dependent variables of hedonic value [40,45,60]. The results of this study will help lay the foundation for future research on consumer behavior.

6.3. Practical Implications

The current research also has managerial implications. From a business perspective, inducing impulse purchases is one way to increase sales. Therefore, examining the factors that stimulate consumers’ pleasure or desire for consumption, leading to impulse purchases, has practical implications.

First, ease of use plays a critical role in generating both utilitarian and hedonic value. Therefore, it is essential to design authentic and user-friendly interfaces. Given that many consumers access e-commerce via mobile devices, optimizing the interface for smaller screens is crucial to ensure responsiveness and facilitate comfortable navigation. The website or app layout should be made intuitive by designing easy-to-understand menus.

Implementing robust search functionalities will also assist consumers in quickly locating specific products based on preferences such as type, price, and freshness.

Secondly, it is crucial to establish a prompt and efficient refund and exchange procedure. Providing clear communication channels for consumers to inquire about or initiate refund and exchange requests is essential. The company should create a consumer-centric process and simplify the refund procedure as much as possible by providing clear instructions on how consumers can request a refund, such as through an online form or by contacting consumer support. Offering responsive consumer support by operating a team that promptly responds to refund requests and inquiries is crucial. Providing multiple channels through which to make contact (e.g., email, phone, or live chat) is essential for satisfying consumers. The company also needs to consider offering no-questions-asked refunds for certain types of issues, such as quality concerns or incorrect orders, to help build service trust and loyalty among consumers.

Third, this study revealed that hedonic value has a more significant influence on impulse buying intention than utility value supported by rational judgment. Hence, managing elements of fresh food e-commerce that can evoke consumer enjoyment and interest is imperative. This involves curating a product assortment reflective of trends, which, in turn, contributes to enhancing the overall online experience and encouraging prolonged engagement.

Fourth, information quality is important for creating utilitarian value. Since consumers are unable to physically inspect and purchase fresh food in an online environment, quality information is pivotal for enhancing efficiency in decision-making and ensuring successful shopping experiences. Therefore, it is important to provide accurate information regarding the country of origin, size, and quantity of the product and to enhance comprehension by providing high-quality images and video. The company should ensure these descriptions are updated regularly to reflect any changes in product specifications.

6.4. Limitations of This Study and Suggestions for Future Studies

Despite the insights, this study has some limitations. First, it specifically focused on online-based fresh food commerce (e.g., Amazon Fresh and Fresh Direct). The fresh food e-commerce industry encompasses various business models, including online-based firms, offline-based stores operating online malls, and third-party intermediaries. Consequently, further research should investigate the service quality attributes and consumer behavior of other types of business models. Second, this study examined four service quality attributes influencing consumer behavior. While these factors play a crucial role, it is important to acknowledge the possibility of additional variables, such as product assortment, delivery quality, price, and brand experience [11–13], which may influence consumption value and impulse purchases. Therefore, future research should explore other potential factors that could contribute to a better understanding of consumption value and impulse purchases. Third, this research examined impulsive buying behavior as the dependent variable. If researchers investigate rational buying behavior and impulsive buying behavior simultaneously, they can compare the differences in the influence of service quality factors and gain deep insights. Fourth, in predicting consumers' impulse buying behavior, usage patterns such as the length of service use and frequency of use can be influential. Therefore, future research could obtain more in-depth insights by studying impulse buying behavior while considering these personal consumption characteristics. Fifth, the sample size collected in this study may not be sufficient to represent all US consumers. Therefore, there may be limitations in generalizing the results due to the sample size. Thus, it is necessary to collect more samples and conduct additional research in the future. Last, this study investigated consumer behavior using only quantitative research. More robust results could be obtained in future research by conducting qualitative research, such as in-depth interviews and focus group interviews (FGIs), in parallel.

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