

Research Article

# A Study on Market Demand for Dual Main Field of "Small Canteen + Big Takeout" in the Context of Digital Transformation: Based on a Research of Consumer Intention to Dual Main Field

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## Abstract

In the context of digital transformation, the catering industry has been reconstructed from the bottom of the new business model, "small canteen + big takeout" dual main field new pattern is gradually formed. Understanding consumer willingness to consume can help cultivate the "dual main field" business pattern for catering enterprises, enabling them to have long-term vitality. This paper adopts literature research method, questionnaire survey method, field observation method and interview method, and through the combination of stratified sampling and convenience sampling method, it investigates the community residents in urban and suburban areas of Beijing, to understand the consumption intention of Beijing consumers towards "small canteen + big takeout" dual main field service, namely small-scale dine in services and large-scale takeout services, from small and medium-sized catering enterprises. Based on the assumptions of the technology acceptance model, it applies the AMOS software to construct a structural equation model affecting the consumption intention, and identify the key factors and influencing paths that influence the consumers' intention to consume "dine in + takeout", so as to make suggestions for the future development in the "dual main field" business pattern of small and medium-sized restaurant enterprises.

## Keywords

Digital Transformation, Dual Main Field, Consumer Intention, Influencing Factors, Influencing Paths

## 1. Introduction

The deep integration of digital technology and the real economy and empowering the transformation and upgrading of traditional industries have become the necessary paths for the development of the digital economy. Promoted by the government, platforms and catering enterprises, the catering industry has opened a new digital operation. At the same

time, the catering industry from the bottom on the reconstruction of the new business model, the means of offline and online two markets operating in parallel, the "dual main field" catering era of dine-in and takeaway has been fully opened, and presents the obvious "takeaway driven dine-in" phenomenon [1-6]. The new pattern of "small canteen + big

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takeout", namely small-scale dine in services and large-scale takeout services' pattern, is gradually forming. Catering enterprises must continue to understand the new needs of consumers in the future, while plowing this "dual main field", in order to have long-term vitality.

There are many research results related to the influence of consumer demand and consumer intention, such as consumers' in-store decisions are influenced by specific factors (e.g. in-store displays, etc.) and individual factors (e.g. demographics, psychological factors). Consumer demand and behavior are influenced by age, occupation, education, family size, product quality and safety. [7-13] Positive emotional responses lead to more positive consumer inferences about taste, health and quality, etc. However, there is no research from a consumer perspective on the consumption intention and demand to the "small canteen + big takeaway" dual-main field in the context of digital transformation.

Based on the literature review and interviews with consumers, we identified the possible factors affecting consumers' consumption intention and demands towards "dual main field". Then we formulated hypotheses and constructs a structural model of the influence path, prepare a questionnaire containing observed variables, and conduct a questionnaire survey on community residents located in the urban and suburban areas of Beijing through a combination of stratified sampling and convenience sampling, to obtain first-hand information on consumer willingness and demand for the "small canteen + big takeout" dual main field service provided by small and medium-sized catering enterprises. After that we used AMOS software to construct a structural equation model of influences behavioral intention (i.e., consumption intention), as the framework of path analysis. According to the observed variable data obtained from our questionnaire survey we substituted the observed variable data into the of the hypothetical path model and tested the relationship between them in order to validate the hypothetical Path Model and identify the key influencing factors and influencing paths by combining factor analysis and path analysis. Finally, we proposed business strategies for small and medium-sized restaurant enterprises based on the key influencing factors and influencing paths, so as to promote the development of the dual main field business pattern of "small cafeteria + large takeout" in small and medium-sized catering enterprises. And meanwhile developing the dual main field business pattern can provide a better solution to meet the current stage of the consumers' consumption demands.

## 2. Identification of Latent and Observed Variables and Structural Modeling Assumptions

This study is based on Technology Acceptance Model

(TAM). In 1975, American scholars Fishbein and Ajzen proposed Theory of Reasoned Action (TRA), which is mainly used to analyze how attitudes consciously influence individual behaviors, based on which Fred D. Davis proposed Technology Acceptance Model (TAM) to explain and predict people's acceptance of information technology. Based on this theory, Fred D. Davis proposed the Technology Acceptance Model (TAM), a model used to explain and predict people's acceptance of information technology. The two main determinants proposed by the technology acceptance model are perceived usefulness and perceived ease of use.

The author believes that perceived usefulness means that consumers believe that accepting the "dine-in + take-out" dual-main field service of catering enterprises brings convenience or improvement to their lives, and perceived ease of use means that the measures or policies of service providers and the government are conducive to the better provision of catering services to consumers, which is a factor that is not examined in this study because it is mainly based on the consumer's perspective to study these factors. We propose two factors that are closely related to consumers' consumption intention, namely perceived quality and attitude toward use influencing factors. Based on the technology acceptance model, this study considers that food issues, service attitude of catering companies and delivery efficiency affect consumers' perceived quality of "dine-in + take-out" dual-main service, and that family support and peer influence affect consumers' perceived usefulness, making it easier for consumers to use the "dine-in + take-out" dual-main service, and that consumers are more willing to use the "dine-in + take-out" dual-main service. "Dine-in + Take-out" service.

Based on the literature study, the following research hypotheses were formulated:

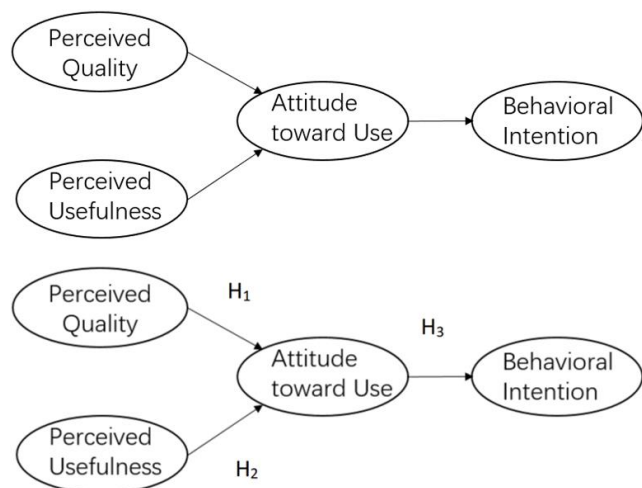
- 1) H<sub>1</sub>: Perceived that the perceived quality of the "dine-in + take-out" model of small and medium-sized restaurants positively predicts (influences) attitudes towards its use;
- 2) H<sub>2</sub>: Perceived that the sample's perceived usefulness of the "dine-in + take-out" model of small and medium-sized restaurants positively predicts (influences) attitudes toward its use;
- 3) H<sub>3</sub>: Perceived that the samples' attitudes towards the use of the "dine-in + take-out" model in small and medium-sized restaurants positively predicts (influences) their behavioral intentions (i.e., consumption intentions).

In order to study the paths affecting the sample's willingness to choose, we propose four latent variables of perceived quality, perceived usefulness, attitude toward use, and behavioral intention, and a number of observational variables corresponding to the latent variables. The design of latent variables and observational variables is shown in the table below.

**Table 1.** Design of latent and observed variables.

latent variable	observed variable
Perceived Quality	PQ 1: Satisfaction with the variety of dishes offered by small and medium-sized restaurants
	PQ 2: Satisfaction with the taste of dishes offered by small and medium-sized restaurants
	PQ 3: Satisfaction with the nutritional health of dishes served in small and medium-sized restaurants
	PQ 4: Satisfaction with the price of dishes offered by small and medium-sized restaurants
	PQ 5: Satisfaction with dine-in services provided by small and medium-sized restaurants
	PQ 6: Satisfaction with delivery services provided by small and medium-sized restaurants (or takeaway platforms)
	PQ 7: Satisfaction with delivery efficiency provided by small and medium-sized restaurants (or takeaway platforms)
Perceived usefulness	PU 1: Family support can help you choose "small canteen + big takeaway" catering services provided by small and medium-sized restaurants.
	PU 2: Influence of colleagues, friends, etc. helps you to choose "small canteen + large takeaway" catering services provided by small and medium-sized restaurants.
attitude toward use	UA 1: "Small canteen + large take-away" catering services provided by small and medium-sized restaurants when unable to cook for themselves
	UA 2: When they have enough income, they will choose the "small canteen + large take-away" catering service provided by small and medium-sized restaurants.
behavioral intention	BI: Willingness to enjoy (choose) small and medium-sized restaurants with "small canteens + big takeaways"

The theoretical model with assumptions is shown in [Figure 1](#).

**Figure 1.** Theoretical model with assumptions.

### 3. Questionnaire Design

Based on the relevant literature, the indicators in the previous studies that are in line with this study and have high reliability and validity are screened, and the Likert five-level scale is used to design the indicator system scale; secondly,

discussions are held with experts in the field of consumer behavior research and catering market research to modify and improve the question items, expressions, vocabulary, etc., of the initial questionnaire; then, the opinions of small and medium-sized catering enterprise operators and some consumers are listened to, and the question items are amended; and lastly, A pre-survey was conducted on a small scale, and the questionnaire was modified according to the results of the survey and analysis to form a formal questionnaire, which was used to gain insight into the research sample's perception of the importance of the influencing factors (observed variables).

### 4. Sample Selection

The questionnaire was administered through a multi-stage sampling method combining stratified sampling and convenience sampling. Firstly, the communities in Beijing were divided into two layers, urban and suburban. Secondly, multiple communities were sampled randomly from two layers. Thirdly, convenience sampling was used to conduct the questionnaire survey on the residents in the sampled communities. Questionnaire Star was used to distribute electronic questionnaires, and paper questionnaires were distributed to a small number of respondents who were not convenient to fill out electronic questionnaires. A total of 302 questionnaires were recovered, of which 300 were valid questionnaires, with a valid questionnaire recovery rate of 99.3%.

## 5. Analysis of Results

### 5.1. Descriptive Statistical Analysis of the Basic Sample

The samples were respectively in terms of gender, age,

place and mode of residence, and average monthly disposable income of individuals, as shown in Table 2, and it can be seen from the statistical results that all types of samples are covered, indicating that the samples of this research have a good representation.

*Table 2. Basic information about the sample.*

Basic information about the sample		number of people	proportions
distinguishing between the sexes	male	105	35%
	women	195	65%
(a person's) age	Under 18	21	7%
	18-25 years	198	66%
	26-30 years	36	12%
	31-45 years	15	5%
	46-60 years	18	6%
	60 years and over	12	4%
current address	city district	177	59%
	suburbia	123	41%
	live alone	84	28%
	Living with spouse	36	12%
Residency	Living with parents	114	38%
	Living with spouse and children	12	4%
	Three or four generations living together	12	4%
	Living with friends	42	14%
Average monthly disposable personal income	\$2,000 and below	111	37%
	2001-5000	108	36%
	5001-10000 yuan	66	22%
	10,001-20,000 yuan	12	4%
	More than \$20,000	3	1%

### 5.2. Reliability and Validity Analysis

The internal consistency test was conducted using reliability analysis and is shown in Table 3. The results show that Cronbach's alpha is 0.969, which is greater than 0.8, indicating that the scores of each variable corresponding to the

question items of the questionnaire have good internal consistency.

The validity test was conducted using factor analysis and is presented in Table 4. The results show that the Kaiser-Meyer-Olkin value is 0.947, which is greater than 0.8, indicating that there is good validity for the measurement of the variables.

**Table 3.** Reliability statistics.

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	Number of Projects
.969	.969	12

**Table 4.** KMO and Bartlett test.

<b>Kaiser-Meyer-Olkin Measurement of Sampling Adequacy</b>		<b>.947</b>
Bartlett's Spherical Check	chi-square (math.)	3838.851
	df	66
	significance	.000

### 5.3. Descriptive Statistical Analysis of Observed Variables

A sample of 279 samples who had chosen dine-in versus

take-out services in the last month was screened out of the returned valid questionnaires. All the observed variables of these samples were statistically analyzed and the results of the main statistics (mean, median, standard deviation) are shown in Table 5.

**Table 5.** Descriptive statistical analysis of observed variables.

Latent Variable	Observed Variable	N	Average Value	Median	Standard Deviation
Perceived Quality	PQ 1: Satisfaction with the variety of dishes offered by small and medium-sized restaurants	279	4.08	4.00	0.829
	PQ 2: Satisfaction with the taste of dishes offered by small and medium-sized restaurants	279	4.09	4.00	0.844
	PQ 3: Satisfaction with the nutritional health of dishes served in small and medium restaurants	279	4.02	4.00	0.887
	PQ 4: Satisfaction with the price of dishes offered by small and medium-sized restaurants	279	4.06	4.00	0.891
	PQ 5: Satisfaction with dine-in services provided by small and medium-sized restaurants	279	4.09	4.00	0.784
	PQ 6: Satisfaction with delivery services provided by small and medium-sized restaurants (or takeaway platforms)	279	4.13	4.00	0.780
	PQ 7: Satisfaction with delivery efficiency provided by small and medium-sized restaurants (or takeaway platforms)	279	4.11	4.00	0.796
Perceived Usefulness	PU 1: Family support can help you choose "small canteen + big takeaway" catering services provided by small and medium-sized restaurants.	279	4.08	4.00	0.834
	PU 2: Influence of colleagues, friends, etc. helps you to choose "small canteen + large takeaway" catering services provided by small and medium-sized restaurants.	279	4.10	4.00	0.819
Attitude toward	UA 1: "Small canteen + large take-away" catering services provided by small and medium-sized restaurants when una-	279	4.16	4.00	0.775

Latent Variable	Observed Variable	N	Average Value	Median	Standard Deviation
Use	ble to cook for themselves				
	UA 2: When they have enough income, they will choose the "small canteen + large take-away" catering service provided by small and medium-sized restaurants.	279	4.11	4.00	0.799
Behavioral Intention	BI: Willingness to enjoy "dine-in + take-out" at small and medium-sized restaurants	279	4.13	4.00	0.788

From the statistical results of the mean values of the satisfaction ratings of the samples on the services currently provided by small and medium-sized restaurants in terms of dine-in and take-out ordering, it can be seen that the mean values of the satisfaction ratings are between 4 and 5 (with 4 being relatively satisfied and 5 being very satisfied), which indicates that the samples' satisfaction with the services currently provided by small and medium-sized restaurants in terms of dine-in and take-out ordering is relatively high.

#### 5.4. Structural Equation Modeling Analysis

We performed fit tests on the initially constructed structural

equation models. The test results show that  $\chi^2/df$  (chi-square degrees of freedom ratio) = 4.226, which is less than 5, CFI (comparative fit index) = 0.839, NFI (normative fit index) = 0.828, IFI (value-added fit index) = 0.839, all of which are close to 0.9, and RMSEA (root mean square of the approximation error) = 0.085, which is less than 0.1, all of which are at the significant level, and model fitting was successful.

The significance level of the model paths was tested by AMOS 26 software, and the parameters of the model were estimated by the "great likelihood method", and the results are shown in Table 6. The estimated values of the model are reasonable, and its standard error is greater than zero, which indicates that the model parameters are well fitted.

**Table 6.** Structural model parameter estimates.

Trails			Unstandardized path Coefficients	S.E.	C.R.	P	Standardized path Coefficients
PQ 1	<---	Perceived Quality	1.086	.050	21.888	***	0.906
PQ 2	<---	Perceived Quality	1.077	.052	20.752	***	0.883
PQ 3	<---	Perceived Quality	1.138	.054	20.939	***	0.887
PQ 4	<---	Perceived Quality	1.097	.057	19.310	***	0.852
PQ 5	<---	Perceived Quality	.962	.050	19.201	***	0.849
PQ 6	<---	Perceived Quality	.953	.050	18.984	***	0.844
PQ 7	<---	Perceived Quality	1.000				0.868
PU 1	<---	Perceived usefulness	.886	.052	16.953	***	0.781
PU 2	<---	Perceived usefulness	1.000				0.897
UA 1	<---	attitude toward use	1.000				0.832
UA 2	<---	attitude toward use	1.073	.058	18.360	***	0.873
BI	<---	behavioral intention	1.000				0.916
Attitude toward Use	<---	Perceived Quality	0.171	0.027	6.375	***	.202
Attitude toward Use	<---	Perceived usefulness	0.783	0.041	19.072	***	.979
Behavioral Intention	<---	Attitude toward Use	1.099	0.055	19.891	***	1.000

Note: \*\*\* indicates  $p < 0.001$



The output of the structural equation modeling test is shown in Figure 2.

The test is performed and the structural equation model is evaluated. The structural equation modeling is obtained as follows.

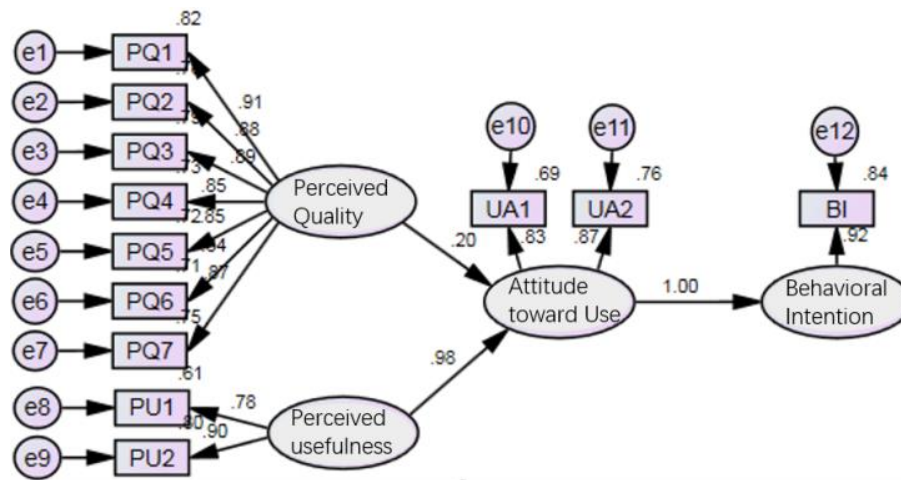


Figure 2. Structural equation modeling of paths affecting the sample's Behavioral Intention (i.e. consumption intention).

Through the path analysis of the structural equation model, the CR of the combination reliability index of perceived quality->attitude toward use, perceived usefulness->attitude toward use, attitude toward use->behavioral intention, as well as the latent variables are all greater than 0.7, and the significance p-value is less than 0.05, which indicates that internal consistency is high and the hypothesis of the influence path is valid, i.e., the sample's perceived quality of the dine-in + ordering take-out model of small and medium-sized restaurants can positively influence its attitude toward use; the sample's perceived usefulness of the dine-in + takeout model of small and medium-sized restaurants can positively influence its attitude toward use; and the sample's attitude toward use of the dine-in + ordering take-out model of small and medium-sized restaurants can positively influence its behavioral intention.

From the standardized path coefficients, it can be seen that the path coefficient of perceived quality -> attitude toward use is 0.202, and the path coefficient of perceived usefulness -> attitude toward use is 0.979, and the latter is larger than the former, indicating that the influence of the sample's perceived usefulness is more important to its attitude toward use than that of perceived quality.

According to the comparison of the standardized path coefficients of each observational variable corresponding to perceived quality, PQ 1 (i.e., the sample's satisfaction with the richness of the variety of dishes in small and medium-sized restaurants) has the greatest influence on perceived quality among the observational variables. According to the comparison of the standardized path coefficients of each observational variable corresponding to perceived usefulness, PU 2 (i.e., the sample's satisfaction with the usefulness of recommendations from colleagues, friends, etc.) has the

greatest influence on perceived usefulness among the observational variables.

## 6. Conclusions and Recommendations

### 6.1. Conclusion

Based on the method of constructing structural equation modeling, the factors and paths influencing the consumption willingness of "small canteen + big takeaway" dual-main field under digital transformation are studied, and the conclusions are as follows:

1) Key factors influencing the sample's intention to consume \$small dine-in + large take-out\$ were identified.

The study found that the key factors influencing the sample's intention to consume in small and medium-sized restaurants in the "small canteen + big takeaway" dual-main field include "influenced by family support", "influenced by colleagues, friends, etc.", "would choose when unable to cook by myself", and "have enough income", and these independent variables have a significant direct influence on the dependent variable. ", "would choose when unable to cook by myself", and "have enough income", and these independent variables have significant direct effects on the dependent variable. It was also found that the sample's satisfaction with the richness of the variety of dishes in small and medium-sized restaurants had the greatest influence on perceived quality, and the sample's recommendation of usefulness from coworkers, friends, etc. had the greatest influence on perceived usefulness.

2) Finding the path that influences the sample's intention to consume \$small dine-in + large takeout\$.

By constructing the resultant equation model, it was verified that the hypotheses of the two paths of "perceived quality->attitude toward use->behavioral intention (i.e., consumption intention)," "perceived usefulness->attitude toward use->behavioral Attitude -> Behavioral Intention (i.e., Consumption Intention)" the hypotheses of both paths are valid, in which the influence of the sample's perceived usefulness on its use attitude is more important, indicating that Path 2 is more significant than Path 1 on Consumption Intention.

## 6.2. Recommendations

Based on the above research conclusions, it is recommended that small and medium-sized catering enterprises pay attention to the key influencing factors and influencing paths that affect consumers' consumption intention; further broaden the service scope of small and medium-sized catering enterprises and find effective ways to promote the long-term smooth operation of small and medium-sized catering enterprises in the catering industry, with the following specific recommendations:

1) *Diversification and high standard quality of dine in or takeout meals to enhance consumer perception of quality*

Meal quality is the key to attracting diners, to ensure that the color, aroma and taste of the meal, the sample analysis of a few people do not choose small and medium-sized restaurants dine-in the main reason for fear that the level of meal production is not stable, not up to the expected requirements, so give up dine-in and takeaway. In order to be able to attract this part of the more demanding diners, it is necessary to strictly control the quality of meals to achieve the purpose of increasing the number of dine-in diners.

2) *Digitalization creates dual home games to enhance consumer perceived usefulness*

Consumers are God, dine-in + takeaway in order to be able to attract more diners, we must carefully analyze the consumer's willingness to use new technologies, the use of attitudes, such as dine-in scanning code ordering, small program orders and other forms of digital food and beverage, to interpret the psychology of the consumer, as far as possible to tap into the perceived usefulness of the store, the platform, the consumer is interdependent, in order to enhance the customer's perception of the usefulness of the customer not only rely on their own accumulation of relevant expertise, but also rely on the business boost to help consumers master the use of skills to achieve a win-win situation. In order to enhance the customer's perceived usefulness, not only by the customer's own accumulation of relevant professional knowledge, but also by the enterprise to help consumers master the use of skills, to achieve a win-win situation, not only to cultivate consumer loyalty, enhance customer stickiness, but also to the dine-in as well as take-away to bring the growth of revenue.

3) *Provide differentiated and personalized services for catering needs of different income levels or different age consumers in the dual main field, and win reputation*

With the improvement of people's living standards, the per capita net disposable income is rising, the daily cost of daily expenses for dine-in and takeaway is also growing, especially the high wage income level of the group, have the ability to take out a part of the wage income for food and beverage consumption, money for time, to win more energy and time to enjoy life. For this reason, small and medium-sized restaurants should design appropriate meals for different income groups to meet the catering needs of customers at different levels, such as the ability to DIY customized private dishes to cultivate VIP diners.

Small and medium-sized catering enterprises will continue to meet consumer spending intentions and new needs, and actively promote the development of offline and online "dual home", to develop a new business model of "small canteen + large takeaway", the enterprise will certainly be revitalized under the digital transformation.

## Abbreviations

CR      Critical Ratio

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## Conflicts of Interest

The authors declare no conflict of interest.

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