

GEN-Z CUSTOMERS' SERVICE PREFERENCE FOR EXPRESS DELIVERY ENTERPRISES: A CASE STUDY OF CHINA

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ABSTRACT

Purpose: The study aims to identify the decision-making factors of Gen-Z customers towards a service of five different express delivery enterprises, which includes SF, ZTO, YUNDA, YTO and STO, based on TOPSIS method.

Design/methodology/approach: As a pilot study, this research was conducted by interview 24 Gen-Z customers who are the students at Yunnan University during the year 2023 by adopting the TOPSIS technique to analysis the customer service preferable factor towards the express delivery enterprise's service.

Findings: The results show that Timeliness is the most important factor that influences on customer satisfaction for the express company's service, following by security, convenience, price, customer service and courier. Moreover, the private express enterprises evaluation result based on TOPSIS method show as follows: SF (0.810), ZTO (0.404), YUNDA (0.269), YTO (0.187) and STO (0.183).

Research limitations/implications: As a pilot study and a limitation of time, there is a small sample size of the interview group. Also, the data was collected with the students from Yunnan University only. Therefore, the further study should concern to improve its validity by expanding the sample size for the study in future.

Practical implications: The express delivery enterprise may apply the suggestions to improve its services for satisfying this customer group's preferable and requirements.

Originality/value: There is limited study focusing on Gen-Z satisfaction towards the service of express delivery company. This customer group will become the largest and most important market in the future. The results show the suggestion factors that help the shopping company to improve their service and competitive advantages.

Keywords: Express company, Customer preference, Gen Z, China, TOPSIS

Introduction

Express delivery industry, one of the most dynamic links in the consumption economy, has constantly satisfied the diversified consumption patterns. It accelerates consumer demand along with rapid digital and internet economy development (Yang and Zhang, 2015). With the rapid development of China's economy and the continuous expansion of private economy, enterprises or individual consumers have a higher demand for the timeliness, convenience, and security of the express delivery of documents, samples, and catalogues etc. There are four different types of express courier services in the market which are air courier services, ground courier services, sea courier services, and rail courier services (Dfrieght, 2022). In china market, the express delivery companies are operated as private express enterprises, state-owned express enterprises, or foreign express enterprises. According to Maigoo.com, a knowledge and research-based portal site, there is a TOP10 list of the most popular express delivery enterprises in 2023, which consists of 9 private express enterprises and 1 state-owned express enterprise. The private express enterprises contain S.F. express, KY express, DEPPON express, ZTO express, JD express, YUNDA express, YTO express, J&T express, and STO express. The only one state-owned express enterprise is EMS express. The score for each express brand is based on a combination of 6 parts, credit index, attention, votes, comments, likes and share rates. Moreover, maigoo.com announces the top 10 China's courier service company in 2023, which is shown in Figure 1.

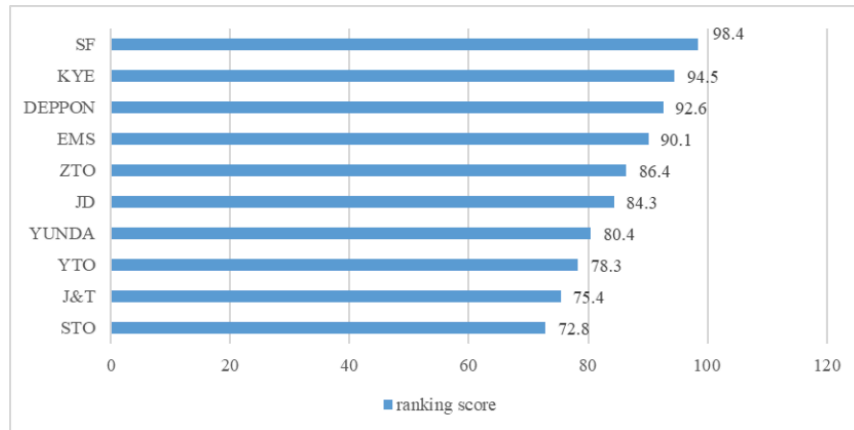


FIGURE 1. Top 10 express popularity list in China market in 2022

There is a highly competitive environment among the express delivering enterprises and some express delivery enterprises are not precisely orient relevant direction to improve service quality and lack of experience in systematically improving service quality (Mei et al., 2011). Furthermore, in these era, Generation Z is now concerned the largest generation, comprising 32% of the world population (Miller and Wei, 2018). However, there is limited research that focuses on the behaviour and preference of this young generation cohort, especially towards the courier service preferable. Therefore, this research aims to study the Gen Z customer's preference and identify key influencing factors which affect their decision making for express delivery enterprises service by using TOPSIS method. The study contains private express enterprises and service quality factors. The factors affecting decision making come from the students as consumers.

Literature Review

Generation Z

Generation Z or Gen Z is referred to young adults who born between 1995-2010 (Kuncoro and Kusumawati, 2021). They are the first generation who born into a digital world; therefore, they are technology savvy, innovative and creative (Priporas et al., 2017). This generation live online and engages with virtually products and services. It also shows than the behave differently to other earlier generations such as Millennials (Gen Y) and Gen X, which lead to consumer behaviour changing. According to Wood (2013), there are four trends that explain Gen Z's consumer characteristic: 1) Interesting in all innovative technologies, 2) Insistence on ease of use, 3) Desiring to feel safe, and 4) desiring to temporarily escape the realities. Moreover, this group of consumers have less brand loyalty, care more about customer experiences and higher expectations (Priporas et al., 2017). Generation Z also has special reasons for purchasing products or services that their desire, as they concern mainly about the convenience, reasonable prices, variety of products/ services selections and time efficiency (Simangunsong, 2018; Kuncoro and Kusumawati, 2021).

The customer service preference towards express delivery enterprise

The express delivery industry first appeared in the United States in the 1960s, while the express delivery industry in China gradually developed after the reform and opening (Huang and Liu, 2005). Most scholars' research on express delivery enterprises have mainly focused on service competitiveness, green development competitiveness, customer loyalty and other aspects. To increase and maintain the customer satisfaction and loyalty, the enterprises should concern to satisfy their customer preferences that mostly refer to a service quality, pricing, convenience, courier function and security (Zhou et al., 2016).

Many previous studies focusing on customer perceived service quality are adopted the concept of quality service quality (SERVQUA) which is proposed by Parasuraman (1985) and it is explained into 5 dimensions: Tangibles, reliability, responsiveness, access and empathy (Zhong, 2022). For research on customer perception express service quality, many studies are applied Attribute Hierarchical Model (AHP) and Fuzzy comprehensive to evaluate (Zhou et al., 2016). Furthermore, there are various scholars researched on China's express delivery service quality and SERVQUA model has been adopted to analysis the customers preferable. According to Li and Xie (2016), the three dimensions of the express service value chain model are the aspects of goods packaging, corporate image and after sales service.

Regarding the concept of logistics service quality (LSQ) model by Mentzer Flint and Kent (1999), it primarily developed by considering on the time management and courier utilities and then took more customer-based approach into its concept (Zhang and Smutkupt, 2021). Also, Dang and Wagn (2016) combined SERVQUA model and the logistic service quality (LSQ) model to form an evaluation index for China's express delivery service and tested with the e-commerce environment. Zhou et al. (2016) proposed the dimensions of express delivery's service quality based on customer perception by combining the concept of SERVQUA and LSQ model. They suggested that the express delivery service quality evaluation system should be concerned about the reliability, price, safety, customer service (includes responsiveness and staff's manners), and assurance (attitude of the staffs and company policies). Furthermore, Zhou et al. (2016) noted that courier utilities refer to a diversity of service functions and all platforms that the company has to connect with their customer, is also influence to customer satisfaction. Therefore, this research developed the dimensions for evaluating express delivery service towards customer preference by adopting the previous related studies. There are six dimensions involved in this study: 1) Customer service, 2) timeliness, 3) courier utilities, 4) Price, 5) security and 6) convenience.

TOPSIS Method

Technique for Order Preference by Similarity to An Ideal Solution (TOPSIS) is a method to sort a limited number of evaluation objects according to their proximity to an idealized target, which is proposed by Hwang and Yoon (1981). It is a multi-criteria decision-making (MCDM) technique which is widely applied for decision-making problems (Behzadian et al., 2012). This method is also concerned the optimal perspective performance, or a point that represents it, should have a minimum distance from the positive-ideal and the negative solutions, which easy to compute and implement procedure (Zhang et al., 2021). TOPSIS method is simple in principle, objective, efficient, flexible, and convenient. The method has no strict restrictions on the sample size and the number of indicators. It is applicable to the large system with multiple indicators and has great applicability to the evaluation.

This approach has been used as a tool for evaluating service quality, decision-making and Zhang et al. (2018) also studied an evaluation of Wuhan's urban public transport priority performance based on the applied TOPSIS model. Additionally, Tiwari et al. (2019) integrated TOPSIS method and Shannon entropy for product design evaluation and to explore customers' preferences. Furthermore, the study by Singh et al. (2017) adopted TOPSIS approach to analysis rank the factors the influence new customers' preferable for online retailing business sector.

Research Methodology

Research sampling

The sample group of this study is the students at Yunnan University, China, who are from 18-25 years old and have had an experience with the courier station center at the University during the year 2022. There are two courier station centers located in Yunnan University, which are Qinyuan courier station center and Nanyuan courier station center. Five express delivery companies have been operating their businesses at these two centers, including S.F. express, YTO express, ZTO express, Yunda express and STO express. Hence, this study focused on comparing the customer preferences regarding these five selected courier

companies. A total of 24 students participated in this research. The interview process was conducted during February and March 2023.

Data Analysis based on TOPSIS method.

The research topic concerns five private express enterprises and related six factors affecting students' selection. There are three parts to the interview questions: firstly, it is the participant bibliography information to confirm that they met the sampling requirements. The second part aims to measure all six factors of express delivery service from the participants' perspective. The last part, the questions are about rating measurement of the six factors for each private express enterprise. The five-level Likert scale was applied to measure the content based on the interviewees' attitude. According to the recognition degree of interviewees, there are five levels: "strongly disagree", "disagree", "Neither agree nor disagree", "agree", "strongly agree", and assigned 1-5 points respectively. After that, the data were analysis based on the TOPSIS method. According to Hwang and Yoon (1981), the TOPSIS approach has 6 steps as follows.

Step 1: Calculating the normalized decision matrix by using vector normalizations, as (1).

$$r_{kj} = \frac{x_{kj}}{\sqrt{\sum_{k=1}^n x_{kj}^2}} \quad (1)$$

Step 2: Calculating the weighted normalized decision matrix, as (2)

$$v_{kj}(x) = w_j \tilde{r}_{kj}(x) \quad (2)$$

r_{kj} is the normalized value of alternative k and attribute j.

w_j is the weight of the attribute j

The assignment of weights plays a key role in the decision making process and may vary from decision makes to decision makers who is going to determine require weight information during decision making process with decision making methods. In the multi-attributes group decision making process, how to determine the reasonable weight of decision maker is very important to obtain the reasonable decision result (Pathania et al., 2023). The simplest way of assessing weights is to arrange the attributes in a simple rank order, listing the most important attribute first and the last attribute last. The researcher assigns 1 to the most important attribute, and n that is the number of attributes at hand to the least important. The cardinal weights can be obtained from the following formulas.

$$w_j = \frac{\frac{1}{r_j}}{\sum_{k=1}^n \frac{1}{r_k}} \quad (3)$$

Step 3: Determining the ideal and negative-ideal solution, as (4) and (5)

$$= \left\{ \left(\max_k v_{kj}(x) \mid j \in J_1 \right), \left(\min_k v_{kj}(x) \mid j \in J_2 \right) \mid k = 1, 2, \dots, n \right\} \quad \text{PIS} = A^+ = \{v_1^+(x), v_2^+(x), \dots, v_j^+(x), \dots, v_n^+(x)\} \quad (4)$$

$$= \left\{ \left(\min_k v_{kj}(x) \mid j \in J_1 \right), \left(\max_k v_{kj}(x) \mid j \in J_2 \right) \mid k = 1, 2, \dots, n \right\} \quad \text{NIS} = A^- = \{v_1^-(x), v_2^-(x), \dots, v_j^-(x), \dots, v_n^-(x)\} \quad (5)$$

PIS is a positive ideal point.

NIS is a negative ideal point.

Step 4: Calculating the separation measures using the n-dimensional Euclidean distance.

$D_k^+ = \sqrt{\sum_{j=1}^m [v_{kj}(x) - v_j^+]^2}$ The separation of each alternative from the ideal solution is given as (6) and (7);

$$, k = 1, 2, \dots, n \quad (6)$$

$$D_k^- = \sqrt{\sum_{j=1}^m [v_{kj}(x) - v_j^-]^2}$$

$$, k = 1, 2, \dots, n \quad (7)$$

Step 5: Calculating the relative closeness to the ideal solution, as (8).

$$C_k^+ = \frac{D_k^-}{(D_k^+ + D_k^-)}$$

$$, k = 1, 2, \dots, n \quad (8)$$

The calculation needs separation measures in Step 5 both D_k^+ and D_k^- . The calculation process of each alternative is shown in Table 1.

Alternatives	D_k^+	D_k^-	$C_k^+ = D_k^- / (D_k^+ + D_k^-)$
A₁	D_1^+	D_1^-	$C_1^+ = D_1^- / (D_1^+ + D_1^-)$
A₂	D_2^+	D_2^-	$C_2^+ = D_2^- / (D_2^+ + D_2^-)$
A₃	D_3^+	D_3^-	$C_3^+ = D_3^- / (D_3^+ + D_3^-)$
.....	
A_n	D_n^+	D_n^-	$C_n^+ = D_n^- / (D_n^+ + D_n^-)$

Table 1: the relative closeness calculation of each alternative.

Step 6: Use arithmetic comparison to compare the value of $A_1, A_2, A_3, A_4, \dots, A_n$ based on $C_1^+, C_2^+, C_3^+, \dots, C_n^+$. Then the best alternative correspond is the best value.

Research Results

The results of 24 participants are explained in Table 2. There are 16 female and 8 male students participated in this study and all of them are Generation Z, who were born during 1995-2010. Most of the sampling have had experienced with express delivering 3-5 times during the year 2022.

		Amount	%
Gender	Male	9	37.5
	Female	15	62.5
	Total	24	100
Age	28 >	-	0
	23-27	6	25
	18-22	18	75
	13-17	-	0
	< 17	-	0
	Total	24	100
Service experience	1 – 2 times	3	12.5
	3 – 5 times	15	62.5
	>5 times	6	25
	Total	24	100

Table 2: Participants' bibliography

The findings show that Timeliness factor has the highest average point as the most considered factor among all six dimensions of customer service preferable for express delivery company, following by Security, Convenience, Price, Customer service and Courier Utilities, as illustrated in Table 3. Six factors are A) Timeliness, B) Security, C) Convenience, D) Price, E) Customer Service and F) Courier Utilities. Then, equation (3) was adopted to calculate the weight of six factors. The weights from ranks of six factors are as the following: Timeliness 0.408, Security 0.204, Convenience 0.136, Price 0.102, Customer service 0.082, Courier utilities 0.068.

Factors	A	B	C	D	E	F
Average point	4.25	4.21	3.42	3.21	3.17	3.13
Ranking	1	2	3	4	5	6
Weight	0.408	0.204	0.136	0.102	0.082	0.068

Table 3: The average points of six factors

Moreover, the average points of each factor for five selected express delivery enterprises are shown in Table 4. the results of each factor of each private express enterprise are applied into comparative analysis among five enterprises. The data shows that the average point of all factors for each private express enterprise is greater than 2. The highest point is SF Express's timeliness (4.63). The lowest point is SF Express's price (2.38).

Factor	A	B	C	D	E	F
Company						
STO	3.13	3.38	2.75	3.67	3.00	2.92
S.F.	4.63	3.92	3.67	2.38	3.08	3.21
YUNDA	3.38	3.04	3.13	3.5	3.08	3.25
YTO	3.17	3.54	2.79	3.67	3.21	3.00
ZTO	3.67	3.25	3.29	3.75	3.13	3.00

Table 4: The average points for six factors of five private express enterprises

Equation (1) and (2) were adopted to calculate the normalized decision matrix of Five express delivery companies and their weighted normalised value, as shown in Table 5 and 6.

Factor \ Company	A	B	C	D	E	F
STO	0.385	0.407	0.445	0.408	0.451	0.424
S.F.	0.569	0.510	0.522	0.310	0.444	0.466
YUNDA	0.415	0.440	0.481	0.440	0.487	0.472
YTO	0.390	0.412	0.451	0.413	0.457	0.436
ZTO	0.451	0.423	0.468	0.489	0.451	0.436

Table 5: The normalized decision matrix.

Factor \ Company	A	B	C	D	E	F
STO	0.157	0.090	0.053	0.049	0.035	0.029
S.F.	0.232	0.104	0.071	0.032	0.036	0.032
YUNDA	0.170	0.081	0.061	0.047	0.036	0.032
YTO	0.159	0.094	0.054	0.049	0.038	0.030
ZTO	0.184	0.086	0.064	0.050	0.037	0.030

Table 6: The weighted normalized value of five enterprises and six factors.

Next, equation (4) and (5) were applied to simply identify the best value (positive ideal point) or worst value (negative ideal point) in each factor from Table 6. The best value or worst value for the weighted normalized value, as presented in Table 7. After that, the distance of alternative from the positive and negative one is calculated separately by equation (6) and (7), as shown in Table 8.

Factor	A	B	C	D	E	F
PIS	0.232	0.104	0.071	0.050	0.038	0.032
NIS	0.157	0.094	0.053	0.032	0.035	0.029

Table 7: The best value or worst value for the weighted normalized value

Company	D_k^+	D_k^-	C_k^*
STO	0.079	0.018	0.183
S.F.	0.018	0.078	0.810
YUNDA	0.068	0.025	0.269
YTO	0.076	0.017	0.187
ZTO	0.052	0.035	0.404

Table 8: The relative closeness results.

The last step of TOPSIS, equation (8) was adopted to calculate the relative closeness value of each alternative express delivery company. The results in Table 8 show the comparative of the relative closeness of five private express enterprises: SF (0.810) > ZTO (0.404) > YUNDA (0.269) > YTO (0.187) > STO (0.183). So that, it can be explained that SF Express is the most valuable private express enterprise for Gen Z customers.

Discussion and Conclusion

This research aims to explore the Gen Z's preferable towards a service of five different express delivery company which are S.F., ZTO, YUNDA, YTO, and STO. The six factors of customer preference are included A) Timeliness, B) Security, C) Convenience, D) Price, E) Customer Service and F) Courier Utilities. After analysis the Gen Z's service preference of express delivery enterprise by adopting TOPSIS, it was found that Timeliness is the most important factor that Gen Z concerned, following by security, convenience, price, customer service and courier utilities. Timeliness factor is the core factor affecting the quality of express service. It not only depends on the fast arrival time, but also the information feedback and time control of

express arrival time (Zhang and Smutkupt, 2021). Moreover, young customers require the express service to ensure about the safety of goods and personal information while meeting the speed requirement. Also, they will select the service of express company that is in a convenience and easy to access location (Zhou et al., 2016). From the results, it also reveals that service / package fees and the service of all staffs are impacted to the young customer preferable when they select the express company. However, the courier utility is the last factor the gen Z customer concerns due to it is a basic service function that every express company has. Therefore, it is not an outstanding factor for young customer consider when they select the express delivery service comparing to others.

From the research results, it can be concluded that S.F. express is the 1st express deliver company that Gen Z prefer based on their services, following by ZTO express, YUNDA express, YTO express and STO express. However, there is some suggestions for each express delivery company which might increase their business advantages, market share and customer satisfaction level. Combining the factors that most affect students' choice of express delivery service, timeliness, security, and convenience of S.F. express is well received by participants. Even though the price of S.F. express is the most expensive with the lowest price evaluation, the participants tend to choose S.F. express for good timeliness, security, and convenience. S.F. express gain the highest points in timeliness (4.63), security (3.92) and convenience (3.67) based on the result. At the same time, the three factors are the top 3 important from the average points. However, SF express's price point is weak (2.38) which consider to be lower than other private express enterprises. Therefore, SF express can prioritize price strategies in the process of improving or maintaining the customer loyalty of young customer group.

For ZTO express, the company gains a highest points in price (3.75) based on the result. Also, it is the top 2 relative closeness to the optimal selection. The top 3 important factors of ZTO express are timeliness (3.67), security (3.25), and convenience (3.29). However, the timeliness is much lower than S.F. express. Compared with S.F. express, only two factors' evaluation of ZTO express are higher than S.F. express are price and customer service factors. Hence, ZTO express can have an improving strategy focusing on timeliness factor based on continuously maintaining the advantaged factors for Gen Z customer group. The 3rd preferable express company is YUNDA express, it has relatively balanced evaluation points with certain positive effect in the top 3 important factors: timeliness (3.38), security (3.04) and convenience (3.13). To gain more high evaluation in Yunnan University, the express can focus on and invest more into these three aspects, as well as attentions to improve their customer service factors and manage on price factor in order to satisfy more customer satisfaction.

On other hands, the 4th express delivery enterprise of the study is YTO company, gains the highest value in the factor customer service (3.21). Also, its price (3.67) is also relatively high enough. But one of the top 3 factor convenience of YTO express gains only 2.79, lower than 3. This leads to lower relative closeness to the optimal express selection than the previous three private express enterprises, because convenience factor (3.42) is one of the top 3 important factor of Gen Z's preference factors. So that, it is necessary for YTO to focus on convenience factor to improve the evaluation of young customer group as same as YUNDA express. These two express companies can pay more attention to the convenience factor while attracting students with good prices, such as improving in the door - to - door services or temporary storage services. For STO express, the company is the last relative closeness to the optimal selection. One of the top 3 important factor which is convenience factor (2.75) is lower than 3 point and its courier utilities factor also lower than other companies. Therefore, to improve the preference of young customer group, STO express absolutely needs to make efforts to the top three important factors that influence Gen Z service preference, especially the convenience factor.

However, there are some limitations of this research. Firstly, due to the limitation of time, the sample size selected in this study is not large enough. Therefore, the research conclusions can be further verified by

expanding the sample size in future studies. Secondly, this study adopted only the TOPSIS to analysis, hence, other MCDM techniques should be applied to increase the results' trustworthiness.

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