

Research on Employee Loyalty and Satisfaction of Small and Medium-sized Cross-Border E-Commerce Enterprises in Dongguan

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Abstract. With globalization and the popularization of the Internet, the development of small and medium-sized cross-border e-commerce enterprises is crucial for international trade and economic growth. However, small and medium-sized cross-border e-commerce companies in Dongguan City encounter numerous challenges due to intense market competition and high operating costs. This research gathered satisfaction and loyalty data through a questionnaire survey among employees of such companies in Dongguan City, utilizing SPSS data statistical analysis methods for processing and interpreting the data. The outcomes of this study aim to offer tailored recommendations and strategies for enhancing employee satisfaction and loyalty in small and medium-sized cross-border e-commerce companies. The author plans to consistently assess and monitor employee satisfaction and loyalty within the company, providing timely suggestions for enhancing the company's competitiveness.

Keywords: Small and medium-sized enterprises, Cross-border e-commerce enterprises, Employee satisfaction, Employee loyalty

1 Introduction

On November 14, 2022, the State Council approved the establishment of cross-border e-commerce comprehensive pilot zones in 33 cities and regions, including Langfang City. This expansion brought the total number of comprehensive cross-border e-commerce pilot zones in China to 165, spanning 31 provinces. Dongguan was designated as a pilot cross-border e-commerce comprehensive zone in 2015. The sector has experienced significant growth, with Dongguan's cross-border e-commerce import and export volume reaching 81.86 billion yuan in 2022, marking an 11.3% increase year-on-year and placing it among the nation's top performers.

Employee loyalty plays a vital role in the sustained growth of small and medium-sized cross-border e-commerce enterprises. Given the notable turnover rates within these enterprises, this article seeks to delve into the challenges faced by small and medium-sized cross-border e-commerce businesses in Dongguan City. It aims to help commercial entities accurately identify and assess the factors influencing employee loyalty. By conducting empirical analyses, the article aims to uncover how these factors impact employee loyalty and consequently develop tailored management strategies. These strategies are crucial in retaining talent,

preventing brain drain, and fostering the advancement of small and medium-sized cross-border e-commerce enterprises in Dongguan City. Recognizing that satisfaction and loyalty are dynamic processes, the author commits to ongoing monitoring and evaluation to refine measures promptly.

2 Theoretical framework

The main focus of this study is to determine the impact of employee satisfaction on employee loyalty of small and medium-sized cross-border e-commerce enterprises. Data on employee satisfaction and loyalty will be collected among ten companies from January 2021 to March 2023. Employee satisfaction was assessed taking into account the following variables: employee compensation, work environment, colleague support, employee empowerment, employee training, and the job itself. Employee loyalty considers the following variables: active loyalty and passive loyalty. For better understanding, variables used in this study were defined operationally.

Working environment - The physical environment around people's workplace mainly refers to the environmental conditions in the work, such as the size of the office or workshop, lighting, ventilation, noise, etc. The more comfortable the working environment provided by the company, the more satisfied the employees are.

Support from colleagues - The friendly relationship and mutual support between colleagues, in the environment of harmonious coexistence among employees, the team cooperation between employees is more effective, enhances the cohesion of the team, and promote employees to obtain a sense of achievement in their work, so as to enhance job satisfaction.

Employee compensation - Enterprises give various forms of remuneration for the services provided by employees. Most people often use the income from work to evaluate and measure the value of work. High income makes employees more material satisfied, so they are more likely to devote themselves to work, focus on work, and strive to prove their value to the company.

Employee authorization - Employees have certain work autonomy in the process of work. Increasing the autonomy of enterprise employees will help employees improve their job satisfaction. The greater the autonomy of employees in the process of work, the higher their job satisfaction.

Employee training - The training opportunities provided by the enterprise to employees to improve their ability. Employee training is conducive to improving the work efficiency of the enterprise, enhancing employees' job satisfaction, and enhancing employees' sense of belonging and identity to the enterprise.

The job itself - A job that meets the professional qualifications and skills of employees mainly refers to the matching of their own conditions with the abilities required by the job.

Employee loyalty - Employees' loyalty to the enterprise can be divided into active loyalty and passive loyalty. The former refers to employees' subjective desire to be loyal to the enterprise. Passive loyalty means that employees are unwilling to stay in the organization for a long time,

but have to stay in the organization due to some restrictive factors, such as high salary, high welfare and traffic conditions.

2.1 Construction of formula

The dependent variable in this study is employee active loyalty (EAL) and employee passive loyalty (EPL), and the independent variables are six important factors: the working environment (WE), support of colleagues (SC), employee compensation (EC), employee authorization (EA), employee training (ET) and job itself (JI). Formulas (1) and (2) are determined. Analyzing the degree of influence of independent variables on dependent variables can help cross-border e-commerce small and medium-sized enterprises better enhance employee loyalty, which will be a continuous research direction. In the formula, α_0 and β_0 represents constant, α and β represent the corresponding coefficient.

$$EAL = \alpha_0 + \alpha_1 WE + \alpha_2 SC + \alpha_3 EC + \alpha_4 EA + \alpha_5 ET + \alpha_6 JI \quad (1)$$

$$EPL = \beta_0 + \beta_1 WE + \beta_2 SC + \beta_3 EC + \beta_4 EA + \beta_5 ET + \beta_6 JI \quad (2)$$

2.2 Hypotheses of the Study

The research hypotheses for the independent variables WE, SC, EC, EA, ET, JI, and the dependent variable EAL, EPL are shown in Table 1:

Table 1: Hypotheses of the Study

Hypotheses
H1: There is a significant impact of WE on EAL.
H2: There is a significant impact of SC on EAL.
H3: There is a significant impact of EC on EAL.
H4: There is a significant impact of EA on EAL.
H5: There is a significant impact of ET on EAL.
H6: There is a significant impact of JI on EAL.
H7: There is a significant impact of WE on EPL.
H8: There is a significant impact of SC on EPL.
H9: There is a significant impact of EC on EPL.
H10: There is a significant impact of EA on EPL.
H11: There is a significant impact of ET on EPL.
H12: There is a significant impact of JI on EPL.

3 Research methodology

3.1 Methods and Techniques of the Study

The research design is descriptive quantitative as the data is presented in numerical and descriptive form. This approach was chosen to systematically gather and display data in a numerical format^[1]. The researcher employed descriptive statistics like mean, frequency, and standard deviation to assess employee satisfaction and loyalty.

Multiple regression analysis is a tool for statistical data processing on the specific issues affecting employee satisfaction and employee loyalty. Statistical software such as Microsoft Excel and SPSS facilitated efficient data computation.

To aid the respondents in expressing their opinion about the subject matter, A five-point Likert scale was used in the survey instrument to capture respondents' opinions, as described below Table 2.

Table 2: Five-point Likert Scale

Scale	Range	Level of Satisfaction	Level of loyalty
5	4.21 to 5.00	Very Satisfied	Very Loyal
4	3.41 to 4.20	Satisfied	Loyal
3	2.61 to 3.40	Moderately Satisfied	Moderately Loyal
2	1.81 to 2.60	Less Satisfied	Less Loyal
1	1.00 to 1.80	Not Satisfied	Not Loyal

3.2 Population and Sample of the Study

In the study, principals and employees of different cross-border e-commerce enterprises participated in this survey. The hundred (100) selected Small and Medium sizes enterprises (SMEs) in Dongguan Bida E-Commerce mall who were purposely chosen (Susita, 2020) as respondents of the study^[2]. The hundred (100) SMEs were chosen because they were centrally located and had been in business since 2021. The 320 employees were chosen as respondents because of their knowledge of the issue that the researcher wants to analyze. Given that the majority of quantitative studies require a minimum sample size of 100 participants, this sample size is appropriate. A descriptive research design is a style of research that gathers data to systematically characterize a phenomena, circumstance, or population. It specifically helps in providing answers to the research problem of what, when, where, and how questions. The above selected firms are taken into consideration and the reason for selecting these companies is that they have high sales volume. Small cross-border e-commerce usually refers to enterprises with annual sales between 1 to 5 million RMB. The small enterprises studied in this paper have annual sales of over 4 million RMB, while the annual sales of medium-sized cross-border e-commerce are usually between 50000 to 200 million RMB. The medium-sized enterprises studied in this paper have annual sales of over 150 million RMB.

The respondents involved in the survey included business leaders and employees, including the following personnel: operation, customer service, visual design, procurement, enterprise accounting, etc. The following are the criteria for selecting respondents for this study: First, respondents must have a minimum of two (2) years of work experience in Small and Medium-Sized Enterprises prior to the survey. Second, respondents must be willing and dedicated to taking part in the survey, assuring active participation in the research process. Finally, the chosen respondents should have technical knowledge about the operation of the firm under inquiry, which will improve the quality and relevance of their input in the study. These factors are critical in ensuring that the respondents picked have the requisite experience, willingness, and expertise to provide meaningful insights and data for the research.

Through the Questionnaire Star tool, the researcher can design questionnaires online. Out of 350 questionnaires distributed, 320 valid ones were collected, resulting in a recovery rate of 91.4%.

4 Data analysis and research results

This section examines the gathered data with the help of statistical techniques and then the examined results are discussed with the results of past studies. Additionally, the statistical results used in this research comprise demographic analysis, descriptive statistics (DS), reliability test, correlation test, and regression test.

4.1 Survey employee statistics and analysis

The first demographic variable assessed in this study is gender and the results are presented in Figure 1.

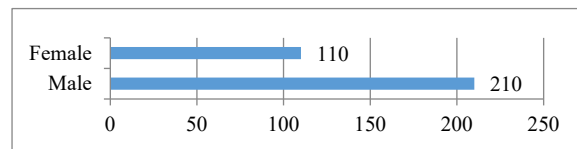


Figure 1: Gender

The first graph depicts that the males who took part in this study are 66% of the total respondents while 34% of females have participated in this study. This graph shows that most respondents of this research are males.

The second demographic variable examined in this research is age and the results are presented in Figure 2:

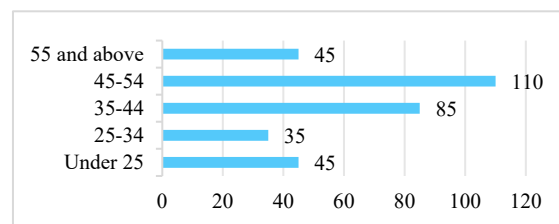


Figure 2: Age

The responses in the above graph showed that 34% of respondents are aged 45-54, 27% are aged 27, 14% are under 25 or 55 and above, and 11% are aged 25-34.

4.2 Reliability Test

A reliability test was conducted in this study to assess the internal consistency of each item. Cronbach's Alpha was used for this purpose. According to Myers et al. (2013), a Cronbach's α value above 0.6 indicates high reliability. The results of Cronbach's Alpha are presented Table 3:

Table 3: Reliability Test

Variable	Number of items	Cronbach's Alpha value
WE	3	0.863
SC	4	0.876
EC	4	0.901
EA	4	0.884
ET	4	0.840
JI	4	0.943
EAL	4	0.950
EPL	3	0.913

The reliability test indicated that all variables in the study are reliable, with values exceeding 0.6. The reliability values for the variables are as follows: WE (0.86), SC (0.87), EC (0.90), EA (0.88), STD (0.84), JI (0.94), EAL (0.95), and EPL (0.91). These results demonstrate the reliability of the items within each variable, and further tests will be conducted.

4.3 Descriptive Statistics

In study, descriptive statistics are used to compile a list of the study's metrics and sample sizes. DS aims to demonstrate the behavior of the sample data (Verma, 2012)^[3]. This study aims to include and quantify several variables. The DS test is particularly important since it divides a large amount of data into smaller amounts. Mean, standard deviation (SD), kurtosis, and skewness are the four basic components of DS. The mean value is the typical value of the information supplied by the respondents. When comparing data values and mean values, the SD value demonstrates the average gap between the values. The SD value shows the deviation of the data from the mean values (George & Mallery, 2019)^[4]. Additionally, the values for skewness and kurtosis are computed, showing that the dataset is normal. With the use of the following Table 4, the DS findings are displayed:

Table 4: Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
WE	320	1.17	5.00	3.3849	.75570	-.350	.136	-.444	.272
SC	320	1.29	4.86	3.3098	.72035	-.269	.136	-.120	.272
EC	320	1.00	5.00	3.3384	.75747	-.353	.136	.044	.272
EA	320	1.00	4.83	3.3255	.74104	-.383	.136	.082	.272
ET	320	1.33	5.00	3.3281	.71273	-.343	.136	-.091	.272
JI	320	1.00	5.00	3.3250	.84476	-.426	.136	-.271	.272
EAL	320	1.00	5.00	3.3380	.84298	-.151	.136	-.478	.272
EPL	320	1.00	5.00	3.2010	.78135	-.371	.136	-.297	.272
Valid N (listwise)	320								

4.4 Correlation Test

The correlation test is used to determine how closely related the constructs are to one another. According to Hinton et al. (2014), there is a strong degree of association when the correlation value is close to 1 and a weak degree of relationship when the correlation value is close to 0^[5].

Additionally, the correlation value indicates a positive relationship between the constructs; if the sign in front of the value is negative, a negative association is indicated. The standards of correlation show that a relationship is considered weak if its value is less than or equal to 0.3, a medium level of correlation is shown if its value is between 0.4 and 0.6, and a strong relationship is shown if its value is 0.7 or higher. The correlation test is displayed below Table 5:

Table 5: Correlation Analysis

	WE	SC	EC	EA	ET	JI	EAL	EPL
WE	-							
SC	.857**	-						
EC	.738**	.868**	-					
EA	.755**	.877**	.935**	-				
ET	.865**	.949**	.904**	.943**	-			
JI	.907**	.845**	.688**	.703**	.820**	-		
EAL	.693**	.792**	.936**	.880**	.844**	.665**	-	
EPL	.671**	.835**	.736**	.846*	.752**	.773**	.704**	-

** . Correlation is significant at the 0.01 level (2-tailed).

The correlation results indicate a high level of correlation among all the variables. All the relationships have values above 0.6 and which is closer to 1 and shows a high correlation. Moreover, all the variables have positive relationships because the sign before the values are positive. Additionally, all the relationships are significant because the p-value is $0.00 < 0.05$.

4.5 Regression Analysis

This study adopts a regression analysis method, based on variables and data, using multiple linear regression (MLR) for research. The reason for using MLR technology is that there is more than one independent variable (IV) and one dependent variable (DV). The independent variables include WE, SC, EC, EA, ET, JI, and the dependent variables include EAL and EPL. The results of the regression analysis for the independent variables WE, SC, EC, EA, ET, JI, and the dependent variable EAL are as Table 6:

Table 6: Regression coefficient and goodness-of-fit tests (1)

Table 5	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	-.094	.080		-1.174	.241
WE	-.078	.060	-.070	-1.318	.189
SC	-.328	.078	-.280	-4.189	.000
EC	1.077	.063	.968	17.176	.463
EA	.082	.087	.072	.950	.000
ET	.086	.117	.073	.735	.000
JI	.188	.049	.189	3.849	.000
R			.941a		
R2			.886		
Adjusted R2			.884		
Standard estimation			.28745		

error	
F	405.093
P	.000b

a. Predictors: (Constant), JI, EC, WE, SC, EA, ET

b. Dependent Variable: EAL

From the above table, it can be seen that using WE, SC, EC, EA, ET, JI as independent variables and EAL as the dependent variable for multiple linear regression analysis, the regression model formula obtained is:

$$EAL = -0.094 - 0.078WE - 0.328SC + 1.077EC + 0.082EA + 0.086ET + 0.188JI \quad (3)$$

The results reveal a high level of correlation with an R-value of 0.94, exceeding the threshold of 0.7. The adjusted R-squared value of 0.884 indicates that the model explains 88% of the variance. The F-value of 405.093, with a corresponding probability value of 0, suggests that the multiple linear regression model is significant. The multiple linear regression equation is significant, indicating a meaningful relationship between the dependent and explanatory variables, allowing for the establishment of a linear model. The coefficient table shows that SC, EA, ET, and JI have p-values less than 0.05, indicating a significant linear relationship with EAL. Conversely, WE and EC have p-values greater than 0.05, suggesting an insignificant linear relationship with EAL. The negative beta values imply that an increase in these variables is associated with a decrease in the dependent variable.

The regression analysis results between the independent variables WE, SC, EC, EA, ET, JI, and the dependent variable EPL are as Table 7:

Table 7: Regression coefficient and goodness-of-fit tests (2)

Table 6	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	3.883	1.087		3.570	.002
WE	.283	.036	.466	7.817	.000
SC	.920	.727	.183	1.276	.220
EC	.433	.060	.573	7.227	.000
EA	.086	.117	.073	.735	.463
ET	.604	.137	.352	4.417	.000
JI	-5.063	1.288	-0.496	-3.932	.000
R			.993a		
R2			.986		
Adjusted R2			.984		
Standard estimation error			1.43839		
F			469.830		
P			.000b		

a. Predictors: (Constant), JI, EC, WE, SC, EA, ET

b. Dependent Variable: EPL

From the above table, it can be seen that using WE, SC, EC, EA, ET, JI as independent variables and EPL as the dependent variable for multiple linear regression analysis, the regression model formula obtained is:

$$EPL=3.883+0.283WE+0.920SC+0.433EC+0.086EA+0.604ET-5.063JI \quad (4)$$

The results show that the R-value is 0.993, indicating a strong correlation. The adjusted R-squared value is 0.984, suggesting a good model fit. The F-value is 469.830 with a p-value of 0, indicating significance. The multiple linear regression equation is significant, indicating a meaningful relationship between the dependent and explanatory variables, allowing for the establishment of a linear model. The coefficient table shows that WE, EC, ET, and JI have p-values less than 0.05, indicating a significant linear relationship with EPL. However, SC and EA have p-values greater than 0.05, suggesting an insignificant linear relationship with EPL. Negative beta values suggest a negative correlation between the independent and dependent variables.

4.6 Hypotheses Assessment Summary

The following Table 8 is a summary of the hypothesis evaluation for the independent variables WE, SC, EC, EA, ET, JI, and the dependent variable EAL:

Table 8: Hypotheses Assessment Summary of EAL as the Dependent Variable

Hypotheses	Reject/Retain
H1: There is a significant impact of WE on EAL.	Reject
H2: There is a significant impact of SC on EAL.	Retain
H3: There is a significant impact of EC on EAL.	Reject
H4: There is a significant impact of EA on EAL.	Retain
H5: There is a significant impact of ET on EAL.	Retain
H6: There is a significant impact of JI on EAL.	Retain

After the above analysis, the following hypotheses are retained: significant impact of SC, EA, ET, and JI on EAL.

The following hypotheses are rejected: significant impact of WE and EC on EAL.

The following Table 9 is a summary of hypothesis evaluation for independent variables WE, SC, EC, EA, ET, JI, and dependent variable EPL:

After the above analysis, the following hypotheses are retained: significant impact of WE, EC, ET, JI on EPL. The following hypotheses are rejected: significant impact of SC, EA on EPL.

Table 9: Hypotheses Assessment Summary of EPL as the Dependent Variable

Hypotheses	Reject/Retain
H7: There is a significant impact of WE on EPL.	Retain
H8: There is a significant impact of SC on EPL.	Reject
H9: There is a significant impact of EC on EPL.	Retain
H10: There is a significant impact of EA on EPL.	Reject
H11: There is a significant impact of ET on EPL.	Retain
H12: There is a significant impact of JI on EPL.	Retain

5 Conclusions and suggestions

Active loyalty means that employees are loyal to the organization out of voluntariness and intrinsic motivation, while passive loyalty means that employees are loyal to the organization out of external factors and constraints. For small and medium-sized cross-border e-commerce companies, improving active loyalty and reduce passive loyalty is very important. Here are some suggested job performance strategies that can help SMEs make progress in both areas:

Small and medium-sized cross-border e-commerce companies in Dongguan city can consider the following aspects to improve employees' active loyalty: First, provide development opportunities, provide training for employees, and help them improve their skills and knowledge levels through internal training, external training, and job rotation. and other methods to provide employees with opportunities for growth and development at work (Gunawan, 2022)^[6]. The second is to strengthen colleague support, encourage cooperation and mutual assistance among employees, and establish a positive team atmosphere. Organize team building activities to promote communication and cooperation among employees. Provide appropriate resources and support to help employees solve problems and challenges at work. By establishing good colleague relationships, employees' work motivation and enthusiasm can be stimulated and their active loyalty can be improved (Smolarek, 2018)^[7]. The third is to provide employees with authorization and decision-making rights. Small and medium-sized enterprises give employees more autonomy and decision-making rights, allowing them to participate in work decision-making. Encouraging employees to put forward suggestions for innovation and improvement and giving them opportunities to implement them can increase employees' job satisfaction and loyalty and stimulate their initiative and sense of responsibility (Dhir and Ghosh, 2020)^[8].

Small and medium-sized cross-border e-commerce companies can consider the following aspects to influence employees' passive loyalty: First, establish a good working environment and create a positive, supportive and respectful working environment to make employees feel comfortable and satisfied. Provide comfortable workspace, good working conditions and facilities to encourage cooperation and teamwork among employees. A good working environment can reduce employee loyalty due to external factors (Kusuma, 2022)^[9]. The second is to provide fair and reasonable employee remuneration to ensure that employees' wages and welfare systems are fair and reasonable and consistent with market levels. A fair compensation system can reduce employees' loyalty due to external factors (Jiang and Cheng, 2017)^[10].

Small and medium-sized cross-border e-commerce companies can also improve employee loyalty from the following aspects. First, provide employees with continuous training and development opportunities to improve their work capabilities and skills. Through training, employees can improve their job performance and increase their loyalty to the organization. At the same time, training can also improve employees' self-confidence and career development opportunities, and increase their active loyalty (Darmawan et al., 2020)^[11]. The second is to ensure that employees' work is challenging and meaningful, and to give employees meaningful tasks and projects to make them feel the importance of their work to the organization. At the same time, provide appropriate support and feedback to help employees improve work quality

and efficiency, employees' job satisfaction and loyalty can be increased, and their initiative and creativity can be stimulated (Basheer et al., 2019)^[12].

The author will continue to monitor and evaluate employee satisfaction and loyalty to identify issues and take timely improvement measures.

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