

Research on the Influence of Brand IP Communication on Brand Citizenship Behavior of Urban Rail Transit Employees

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Abstract. In the post-pandemic (COVID-19) era, under the dual background of urban image communication and brand IP development, the influence of IP communication on brand citizenship behavior of urban rail transit employees and its mechanism have become an important issue with theoretical and practical significance. Based on the internal brand management theory, this study conducted an online questionnaire survey of urban rail transit employees in C city, which shows that brand IP communication has a positive correlation with the brand citizenship behavior of urban rail transit employees, and job satisfaction and organizational commitment have an intermediary effect in the process of brand IP communication's influence on the brand citizenship behavior of its employees. Brand IP attitude has a positive moderating effect on brand IP communication affecting job satisfaction and brand citizenship behavior. Brand IP communication is conducive to strengthening the brand citizenship behavior of urban rail transit employees and improving their work quality and service level. It can also further promote the IP construction of urban rail transit, and provide a new paradigm of urban rail transit IP communication for urban image communication.

Keywords: brand IP communication, brand citizenship behavior, rail transit employees, urban image communication.

1. Introduction

In the post-pandemic era, urban image communication is an important factor to improve the core competitiveness of the city, and the rapid development of IP communication provides a new paradigm for promoting the construction and communication of urban image [1]. Urban rail transit, as the symbol and infrastructure construction of an international city, not only has a profound impact on the overall development of the city but also enriches the urban culture and customs [2]. Spreading the IP of urban rail transit can promote it to become a new carrier of urban image communication. Innovative communication symbols can effectively improve the competitiveness of cities in the development of globalization.

The front liners in urban rail transit are the main force in IP construction and city image construction of urban rail transit, relying on their professional advantages of contacting the public most widely. According to the research, the service level of employees is closely related to brand citizenship behavior [3]. Brand citizenship behavior is positively related to the actual brand image construction, that is, the higher the brand citizenship behavior, the stronger the actual initiative of the respondents, and the better the work service effect. Therefore, focusing on the brand citizenship behavior of urban rail transit employees, this study proposes that it is of profound significance to discuss the IP communication mechanism of urban rail transit.

Based on the internal brand management theory, this study intends to investigate the relationship between urban rail transit IP communication and the brand citizenship behavior of its employees, the influential mechanism of urban rail transit IP attitude on its employees' brand citizenship behavior, and the influential factors of urban rail transit employees' brand citizenship behavior. Therefore, this paper can provide new ideas for internal IP communication for cities, and shed light on how the service quality of its employees can better promote the spread of urban image and improve the internal core competitiveness of urban image under the influence of urban rail transit IP communication.

2. Literature Review and Theoretical Hypotheses

2.1 Theoretical Premise: Internal Brand Management Theory

Burmann et al. (2005) put forward the concept of Internal Brand Management (IBM, henceforth), which is an important component of integrated marketing communication. IBM is a stable structure composed of brand identity, brand communication, and brand leadership [4]. Taking employees as the primary focus, through strengthening employees' brand identification and communication, can shape the brand image in consumers' minds. IBM is an effective tool to construct a strong brand, which helps to improve the competitive advantages of customer loyalty and sustainable development. Brand citizenship behavior, job satisfaction, and organizational commitment are usually the results of IBM, all of which provide sustainable competitive advantages for brands [3].

IBM has become an established means for many public sector organizations to support their brand development, and the perspective of employees is crucial to this, and employees' behavior will affect the brand identification of external stakeholders [5]. The IBM of urban rail transit starts from employees, promotes the brand recognition and brand communication of employees, and further enhances the brand citizenship behavior, job satisfaction, and organizational commitment of employees. Transforming IBM into an internal driving force can effectively enhance the brand image and market differentiation competitiveness of urban rail transit, and give full play to the constructive role of urban rail transit brand IP and employees in order to promote the communication of urban image.

2.2 Brand IP Communication and Brand Citizenship Behavior

Brand IP communication is symbolic and emotional, and it is a new brand-constructing method oriented by emotional connection. It is a more lasting and better-quality brand communication upgrading mode since it communicates with the target audience with a personalized and emotional IP image [6]. Urban rail transit, as the most adequate infrastructure construction of urban regional culture, has a strong cultural dissemination value, high degree of identification, and can generate online traffic itself [7]. In the era when 3F (fresh, flash, fulfill) has become the norm of life and the public's attention is extremely scarce, brand IP communication has become a powerful weapon for enterprises to compete in the market. Brand IP communication of urban rail transit provides brand IP value in promoting the intelligent and all-industrial development of urban rail transit. It is also helpful in enriching market popularity, and at the same time, building a characteristic city image IP. Therefore, brand IP communication of urban rail transit is conducive to building the brand image of characteristic urban rail transit, and then provides a new path for building the image communication of characteristic cities.

Brand Citizenship Behavior (BCB, henceforth) was first put forward by Burmann and Zeplin (2005). They integrated the previous studies on IBM and referred to organizational citizenship behavior to put forward this concept. BCB refers to employees' voluntary behavior to strengthen customers' and other employees' discretion in brand identification in addition to formal job requirements. The organization has not formally defined it within the responsibility system [8]. Therefore, the BCB of urban rail transit employees can be understood as their employees' self-conscious and voluntary efforts for brand construction. BCB emphasizes innovative working methods and the improvement of working quality, which helps enterprises to establish a good brand image. Emphasis on employees' autonomy rather than interference under the reward and punishment system can effectively promote the efficient operation of brands and accumulate customer assets, so as to achieve a win-win situation between enterprises and employees [9]. Combining BCB verified by Xie [8] with the trend of IP development in urban rail transit, the BCB of urban rail transit employees can be divided into the willingness to help (internal and external understanding of brand IP communication), brand enthusiasm (brand IP communication image enthusiasm) and further development tendency (development of brand IP communication) [3]. Combined with previous studies, Piehler (2018)[10] found that brand understanding was the key factor affecting BCB, and

brand IP communication was an important way to promote brand comprehension. However, through statistics, it is found that there is a lack of research conclusions about brand IP communication on employees' brand citizenship behavior at home and abroad. Based on this, the research question can be put forward:

RQ1: Will brand IP communication affect the brand citizenship behavior of urban rail transit employees?

2.3 Brand Communication and Job Satisfaction

Ma and Hou (2009) [11] proposed that brand construction could bring a good employment experience, thus improving job satisfaction. As an innovative way of brand construction, brand IP communication shows a positive impact on improving the job satisfaction of urban rail transit employees. Brand IP communication is conducive to improving the internal satisfaction of the staff, which refers to employees' personal cognitive perceptions about their own jobs, including their sense of achievement and job stability. Improving external satisfaction refers to employees' cognitive evaluation of the external working environment, including their salary and compensation, colleagues' relationships, etc. The distinctive brand IP image can not only enrich employees' awareness of the company's corporate culture and enhance their sense of belonging but also give full play to their potential advantages of emotional ties in the future market competition [12]. Based on previous research theories, it can be concluded that brand IP communication has a significant positive impact on the job satisfaction of its employees. Therefore, the following hypothesis can be proposed:

H1: Brand IP communication can positively promote the job satisfaction of urban rail transit employees.

Zhao (2006) found that employees' job satisfaction was the main factor affecting their organizational citizenship behavior by analyzing the behaviors of 300 employees from different enterprises. Brand IP communication has a positive impact on brand building, and a good brand image will motivate employees who value reputation and show more organizational citizenship behaviors [13]. Brand citizenship behavior is based on the concept of organizational citizenship behavior, which is highly similar to organizational citizenship behavior, so it can be inferred that job satisfaction plays an influential role in the process of brand IP communication affecting the brand citizenship behavior, and job satisfaction play an intermediary role in it. Accordingly, the following hypothesis is put forward:

H2: Job satisfaction plays an intermediary role in the process of brand IP communication affecting the brand citizenship behavior of urban rail transit employees.

2.4 Job Satisfaction and Organizational Commitment

Becker (1960) put forward Organizational Commitment (OC, henceforth), which refers to employees' attitude and behavior towards the organization, and it is the psychological link between employees and the organization. This concept combined Allen and Meyer's (1990) three-factor theoretical model of organizational commitment, that is, emotional commitment, sustained commitment, and normative commitment [14] with Ling's (1977) five-factor model of organizational commitment in China. Ling's (1977) five-factor model added "ideal commitment" and "opportunity commitment" more than those in the west. Research on organizational commitment of urban rail transit employees, based on the value influence of IP communication of urban rail transit and the long-term ideal of urban image communication, comprehensively considers joining "ideal commitment".

There is a correlation between job satisfaction and organizational commitment. Some scholars believe that there is an interaction between job satisfaction and organizational commitment, and the interaction is not equal. The influence of job satisfaction on organizational commitment is stronger than that of organizational commitment on job satisfaction [15]. Poter (1974) [16] proposed that job satisfaction was closely related to the specific working environment, and job satisfaction was more likely to change than organizational commitment. Based on the instability and variability of job

satisfaction, job satisfaction can be regarded as the antecedent dependent variable of organizational commitment. Most scholars believe that job satisfaction affects organizational commitment. Rayton (2006) found that job satisfaction had a positive correlation with organizational commitment. Another research showed that employees' job satisfaction positively affected organizational commitment, and internal satisfaction and external satisfaction were positively correlated with emotional commitment, normative commitment, and ideal commitment (Ma, Wang, & Xing, 2013) [14]. Therefore, the research hypothesis is put forward:

H3: Job satisfaction of urban rail transit employees can positively promote their organizational commitment.

2.5 Organizational Commitment and Brand Citizenship Behavior

As a large state-owned enterprise, Urban Rail Transit Group, which has good brand construction and brand IP communication, can reduce unknown risks for employees and make their organizational commitment more stable. Organizational commitment is the direct expression of employees' attitudes in the process of social exchange among employees [17], and it is also the link between organizational management and employees' behavior. It helps to enhance employees' sense of organizational identity and belonging [18]. Organizational commitment is widely used to predict organizational citizenship behavior, and brand citizenship behavior is consistent with organizational citizenship behavior in motivation, so organizational commitment can also be used to predict brand citizenship behavior. Organizational commitment is an important antecedent dependent variable that affects organizational citizenship behavior outside the role of employees [18]. Lapalme found that employees with high organizational commitment were more committed to work and have a stronger sense of belonging to the organization [19]. A large number of studies have confirmed that organizational commitment, a positive emotion based on intangible benefits, can actively promote employees to work hard and show their loyalty to the organization. Employees of Urban Rail Transit Group are the direct external evolution of IP communication of urban rail transit, and their organizational commitment directly affects their brand citizenship behavior. Accordingly, this study puts forward the following hypotheses:

H4: Organizational commitment of urban rail transit employees has a positive relationship with their brand citizenship behavior.

H5: Organizational commitment plays an intermediary role in the process of brand IP communication affecting the brand citizenship behavior of urban rail transit employees.

2.6 The Moderating Role of IP Attitude

The brand IP attitude of urban rail transit is divided into external consumers and internal employees. The brand IP attitude of internal employees has a related impact on external consumers. When front liners complain about brand IP, it will significantly affect consumers' brand attitudes [22]. Therefore, brand IP attitude has an important influence on brand IP communication. Frontliners are important sources for customers to acquire the brand image, so the service contact of urban rail transit employees is an important carrier of brand IP communication. The brand IP attitude of urban rail transit employees has a direct impact on the effect of brand IP communication. A positive IP attitude promotes the spread of urban rail transit, improves the reputation of consumers' brand IP externally, and internally improves employees' job satisfaction and organizational commitment, thus enhancing brand citizenship behavior.

Internal brand IP attitude mainly includes two dimensions, that is, brand IP cognitive emotion and brand IP behavior guidance. Brand cognitive emotion outlines the inner brand IP image of employees, and brand IP behavior guidance can promote the brand IP construction actions of employees [20]. Brand IP attitude can promote the construction of brand citizenship behavior [21]. On the one hand, it can enhance the brand IP reputation of employees, transfer brand knowledge to the public, and enhance the brand identity of mass urban rail transit. On the other hand, we should promote urban rail transit employees to actively participate in brand construction, transform brand IP value into an

organizational commitment to practice, actively display brand IP image in their work, actively communicate with the public, and establish a good IP image of urban rail transit.

To sum up, the following hypotheses are put forward:

H6: Brand IP attitude plays a positive regulatory role in the process that the brand IP communication in urban rail transit affects the job satisfaction of its employees.

H7: Brand IP attitude plays a positive regulatory role in the process that the brand IP communication in urban rail transit affects the brand citizenship behavior of its employees.

According to the above research questions and research hypotheses, the hypothesis of the research model of this study is shown in Figure 1:

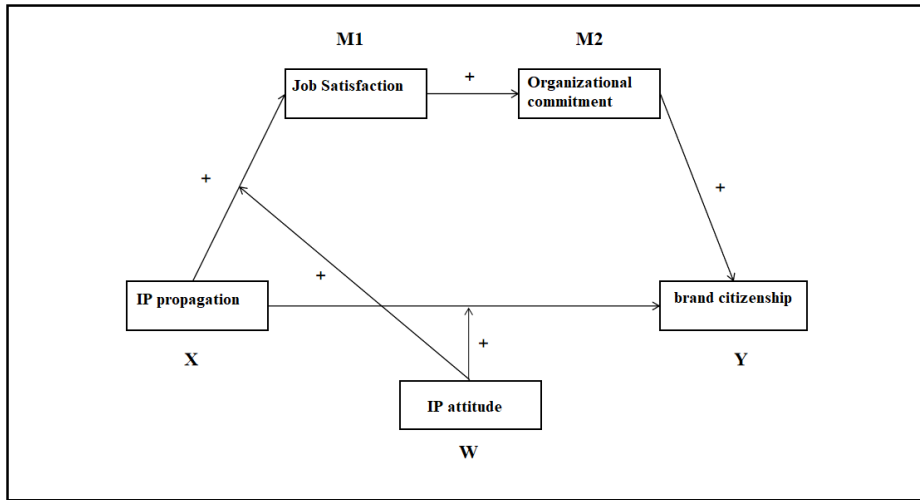


Figure 1 The Hypothesis of the Research Model

3. Methodology

3.1 Sample Collection

The research object is mainly concentrated on urban rail transit employees in C city. The sample is generated by snowballing sampling method, and the survey method is mainly through an online questionnaire survey. The questionnaire contains 50 items, mainly including five parts: brand IP communication, job satisfaction, organizational commitment, brand citizenship behavior, and brand IP attitude. The production, distribution, and recycling of questionnaires were mainly completed on the Wenjuanxing (wjx.cn) platform. Finally, 375 questionnaires were collected, and the questionnaires which were finished within 300 seconds were excluded. Finally, the effective sample size was 281.

3.2 Variables

3.2.1 Control variables

Demographic variables include gender (153 males and 128 females, accounting for 54.4% and 45.6%, respectively), age (the sample data concentrates on 37 years old, 20 years old for the youngest, and 57 years old for the eldest), working years in rail transit groups (less than 4 years, 5-10 years, 11-20 years, more than 21 years, accounting for 29.2%, 25.6%, 29.9%, and 14.2%, respectively), the highest education background (college degree or below, undergraduate degree, master degree or above, accounting for 58.4%, 29.5%, and 11.4%, respectively), current positions (regular staff, middle-level technicians, senior managers, accounting for 71.9%, and 16.7%、and 12.1%, respectively) and monthly income (total income below 3500 RMB, 3500-6000 RMB, 6000-20000 RMB, and more than 30000 RMB, accounting for 35.1%, 33.1%, 18.5%, and 13.2%, respectively).

3.2.2 Dependent variable

The dependent variable of this paper is the brand citizenship behavior of urban rail transit employees in C city. The brand citizenship behavior scale in this study mainly refers to Burmann [8] and other empirical methods to test three dimensions of brand citizenship behavior: helping others, brand enthusiasm, and development willingness. In this questionnaire design, there are two measurement options for helping others, four measurement options for brand enthusiasm, and five measurement options for development willingness. In order to distinguish the expressions, the options are in the form of a five-level scale. The reliability test of the scale shows that the scale has good reliability ($\alpha = 0.969$). According to descriptive statistics, $M=3.057$ and $SD=1.168$.

3.2.3 Independent variable

The independent variable of this paper is brand IP communication of urban rail transit. The measurement of IP communication variables of urban rail transit is mainly based on brand communication in Preez, endixen, Abratt, and other previous references [4], which mainly asks rail transit employees about the connotation and communication effect of the IP image of rail transit. For the convenience of distinguishing these expressions, the option is still in the form of a five-level scale. The scale has good reliability ($\alpha = 0.947$), and descriptive statistics show the scores ($M=3.341$, $SD=1.194$).

3.2.4 Regulatory variable

The regulatory variable of this paper is the brand IP attitude of urban rail transit employees. The variable scale is based on Spears et al. [22], which mainly asks employees about their attitudes, attractiveness, job pleasure, and IP-based support attitude of rail transit in C city. Through the sliding bar from 1-5, the attitude tendency of employees can be quickly obtained. The reliability of the scale is $\alpha = 0.939$, and the scale has good reliability. Descriptive statistics show that $M=3.182$, $SD=1.237$.

3.2.5 Mediated variable

Job satisfaction and organizational commitment are mediated variables in this paper. Job satisfaction is based on Minnesota Job Satisfaction Scale. Based on this, a total of 10 items are put forward to explore the problems of job achievement, welfare, and colleague relationships. Organizational commitment mainly refers to the organizational commitment scale compiled by Allen & Meyer (1997) and Ma, et al [14]. This scale is mainly measured from four aspects: emotional commitment, normative commitment, sustained commitment, and ideal commitment, with a total of 10 questions. For the convenience of distinguishing, the options are still in the form of a five-level scale. Among them, the reliability test of job satisfaction is $\alpha = 0.967$, which indicates that the reliability of the scale is high. Descriptive statistics show that: $M=3.167$, $SD=1.165$. The reliability test result of organizational commitment is $\alpha = 0.964$, indicating that the reliability of the scale is high. Descriptive statistics show that $M=2.959$, $SD=0.952$.

Table 1 Descriptive Statistics of Main Variables

Variable	Average value	Standard deviation
IP communication	3.341	1.194
Job satisfaction	3.167	1.165
Organizational commitment	2.959	0.952
Brand citizenship behavior	3.057	1.168
IP attitude tendency	3.182	1.237

3.3 Statistical Methods

Data input and calculation are completed in EXCEL. In this paper, Pearson correlation analysis and hierarchical regression analysis are carried out by SPSS 26.0 software, and the nonparametric percentile Bootstrap method is used for model construction and intermediary effect test. Process V4.1 plug-in compiled by Sayes verifies the dual mediation model. Model 86 is selected to analyze the data and takes the 95% confidence interval as the detection standard of mediation effect significance.

4. Research Results

4.1 Descriptive Analysis and Correlation Analysis

According to the data in Table 2, it is found that there are correlations among variables such as IP communication, job satisfaction, organizational commitment, brand citizenship behavior, and IP attitude tendency, among which organizational commitment ($r=0.247$) is the most strongly correlated with brand citizenship behavior, followed by job satisfaction ($r=0.249$), IP attitude ($r=0.327$) and IP communication ($r=0.457$).

Table 2 Statistics of Correlation Coefficient of Main Variables

Variable	IP communication	Job satisfaction	Organizational commitment	Brand citizenship behavior	IP attitude tendency
IP communication	1				
Job satisfaction	0.371**	1			
Organizational commitment	0.439**	0.316**	1		
Brand citizenship behavior	0.457**	0.249**	0.247**	1	
IP attitude tendency	0.478**	0.476**	0.406**	0.327**	1

Note: all variables in the model are standardized, * $p<0.05$, ** $p<0.01$, *** $p<0.001$, and the two-tailed test show a significant correlation.

4.2 Intermediary Model Test of Job Satisfaction and Organizational Commitment

Table 3 Job Satisfaction and Organizational Commitment

Analysis of the intermediary effect of IP communication in the process of affecting brand citizenship behavior of urban rail transit employees

Regression equation		Overall fitting index		Significance of regression coefficient	
Dependent variables	Independent variables	R2	F	β	p
Job satisfaction	IP communication	0.339	15.504	0.397	0.017*
	IP attitude			0.666	0.000***
	IP Communication × IP attitude			0.114	0.017*
	Affected by control variables				
Organizational commitment	IP communication	0.290	13.928	0.162	0.002**
	Job satisfaction			0.354	0.023*
	Affected by control variables				
Brand citizenship behavior	IP communication	0.262	8.688	0.346	0.036*
	Job satisfaction			-0.016	0.800
	organizational commitment			0.041	0.026*
	IP attitude			0.149	0.417
	IP Communication × IP attitude			0.025	0.619
	Affected by control variables				

Note: all variables in the model are standardized, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$, and the two-tailed test show a significant correlation.

According to the test method of intermediary effect, the data analysis was carried out by using the Process plug-in compiled by Hayes. Brand citizenship behavior was the dependent variable, IP communication was the independent variable, job satisfaction and organizational commitment were the intermediary variables, and the control variables such as final age, monthly income, position, gender, working years, and highest education were put into Model No.86. The number of independent sampling was 5,000. Table 3 shows the specific results. Statistics show that IP communication has a significant positive impact on brand citizenship behavior ($\beta = 0.346, p < 0.05$), which verifies research question 1. IP communication has a significant positive impact on job satisfaction ($\beta = 0.397, p < 0.05$), and hypothesis 1 is verified and hypothesis 2 is preliminarily verified. Job satisfaction of urban rail transit employees has a significant positive impact on organizational commitment ($\beta = 0.354, p < 0.05$), and hypothesis 3 is verified. Organizational commitment of urban rail transit employees ($\beta = 0.041, p < 0.05$) has a significant positive impact on brand citizenship behavior, and hypothesis 4 has been verified and hypothesis 5 has been preliminarily verified.

The Bootstrap indirect effect analysis of job satisfaction and organizational commitment is shown in Table 4. It indicates that the indirect effect value of job satisfaction is 0.400 in the process of IP communication affecting brand citizenship behavior, and the indirect effect value of organizational commitment is 0.163 in the process of IP communication affecting brand citizenship behavior, and both Bootstrap 95% confidence intervals contain 0, which indicates that job satisfaction and organizational commitment have significant mediating effects in the process of IP communication affecting brand citizenship behavior. Hypotheses 2 and 5 are verified.

4.3 IP attitude Variable Adjustment Model Test

Table 4 Analysis of the Mediating effect of IP Communication on Job Satisfaction and Brand Citizenship Behavior at Three Levels of Brand IP Attitude Adjustment Variables

Dependent variable	Regulatory variable	Indirect effect	Boot standard error	Boot 95% CI	
				Lower limit	Upper limit
Job satisfaction	High IP attitude	0.018	0.105	0.019	0.026
	IP attitude	0.000	0.005	-0.011	0.010
	Low IP attitude	0.003	0.017	-0.041	0.030
Brand behavior	High IP attitude	0.002	0.009	0.015	0.022
	IP attitude	0.000	0.005	-0.012	0.070
	Low IP attitude	0.005	0.001	0.004	0.012

Note: all variables in the model are standardized, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$, and the two-tailed test.

Both the influences of IP communication on job satisfaction and IP communication on brand citizenship behavior are regulated by IP attitude. According to the data in Table 3, when IP communication is regulated by IP attitude ($\beta = 0.114, p < 0.05$), the regression coefficient of IP attitude on job satisfaction is significant ($\beta = 0.666, p < 0.05$). However, the regression coefficient between IP attitude and brand citizenship behavior ($\beta = 0.149, p > 0.05$) and that between IP communication and brand citizenship behavior ($\beta = 0.346, p < 0.05$) is not significant. It shows that IP attitude may play a moderating role in the process of IP communication spreading to urban rail transit employees and brand citizenship behavior. Hypothesis 6 has been preliminarily verified, but Hypothesis 7 cannot be verified.

In this paper, using the Bootstrap analysis tool, according to the 95% CI interval, we further examine the significance of different IP attitudes preferences in the process of IP communication affecting the brand citizenship behavior of urban rail transit employees. The results are shown in Table 4. According to Table 4, when job satisfaction and organizational commitment are used as

intermediary variables, the 95% confidence interval of Bootstrap of respondents with good IP attitude does not contain 0, which means that when employees of urban rail transit have good IP attitude, IP communication can better positively influence brand citizenship behavior through satisfaction and organizational commitment. When the IP attitude is at a medium level, job satisfaction and organizational commitment are the intermediary variables, and the Bootstrap 95% confidence intervals all contain 0, which indicates that when the IP attitude of urban rail transit employees is moderate, the moderating effect of IP communication on job satisfaction and brand citizenship behavior is not significant. However, when the IP attitude is poor, job satisfaction and organizational commitment are the intermediary variables, and the Bootstrap 95% confidence interval does not contain 0, which indicates that when the IP attitude of urban rail transit employees is poor, IP communication still has a significant moderating effect on job satisfaction and brand citizenship behavior.

According to the above research results, the hypothetical model in Figure 1 can be adjusted, and the final research model is shown in Figure 2.

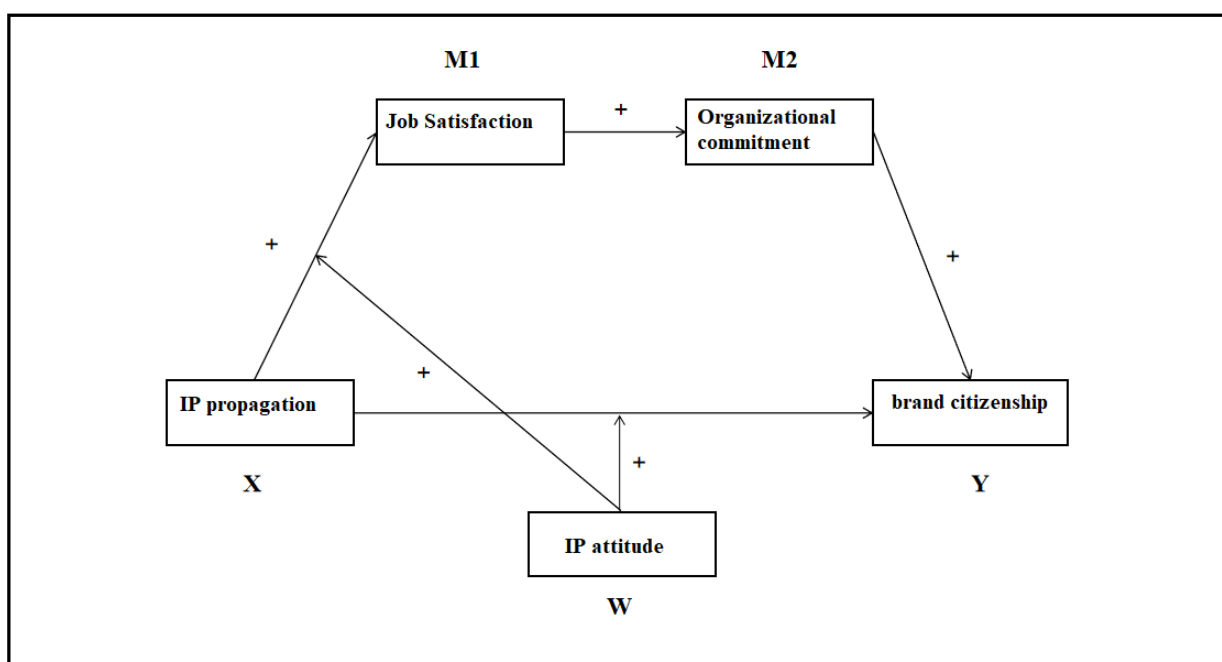


Figure 2 Final Research Model

5. Discussion

This study focuses on brand IP communication and the relationship between brand citizenship behavior of urban rail transit employees and brand IP communication. Through the research, it is found that brand IP communication can affect the brand citizenship behavior of urban rail transit employees in two ways: directly affecting the brand citizenship behavior, and influencing the brand citizenship behavior through job satisfaction and organizational commitment. However, according to the specific results, the influential mechanisms of these two research paths have certain differences.

5.1 The Direct Influence of Brand IP Communication on the Brand Citizenship Behavior of Urban Rail Transit Employees.

The results show that brand IP communication has a significant positive impact on the brand citizenship behavior of urban rail transit employees, which demonstrates the research problems mentioned above. IP communication has a direct and positive impact on urban rail transit employees. Preez et al. [4] believed that there was a direct impact between internal brand management and brand citizenship behavior, which demonstrates that brand IP communication is the key element of internal

brand management. Therefore, in the future internal brand management, we should actively attach importance to the brand IP construction of urban rail transit, combine the employees' own experiences and feedback from the public, and promote the continuous improvement of IP construction of urban rail transit. At the same time, when perfecting brand IP construction, we should further promote IP communication of urban rail transit, improve brand citizenship behavior of internal urban rail transit employees, so as to create a public impression of characteristic urban rail transit and create characteristic brand IP communication for urban image communication.

5.2 The Mediating Effects of Job Satisfaction and Organizational Commitment in the Process of Brand IP Communication Affecting Brand Citizenship Behavior of Urban Rail Transit Employees

5.2.1 Brand IP communication and job satisfaction

Brand IP brand communication has a positive effect on the job satisfaction of urban rail transit employees. Brand IP communication can further promote brand construction, bring better employment experience to its employees, improve their in-depth understanding of urban rail transit culture and strengthen their brand IP identity and pride, which is consistent with previous research conclusions. According to the results of this study, job satisfaction has an obvious mediating effect in the process of brand IP communication affecting brand citizenship behavior. Job satisfaction is the key factor to measure the brand citizenship behavior of urban rail transit employees. Brand IP communication can improve their job satisfaction to a certain extent, and then promote their brand citizenship behavior. Therefore, in order to improve the brand citizenship behavior of urban rail transit employees, apart from playing the direct role of brand IP communication, we can pay more attention to the impact of brand IP communication on their job satisfaction, such as using brand IP communication to improve employees' self-realization, job satisfaction, and job stability.

5.2.2 Job satisfaction and organizational commitment

Job satisfaction of urban rail transit employees has a significant positive impact on organizational commitment. Most scholars believe that unstable job satisfaction is a positively related antecedent variable of organizational commitment. Compared with organizational commitment, employees' job satisfaction is more easily influenced by the external environment, and organizational commitment is a more stable and lasting organizational recognition. [23] Brand IP communication promotes its employees' long-term job satisfaction and then promotes their commitment to the organization, thus stabilizing their job satisfaction. However, the problems including how the influential mechanism of job satisfaction on organizational commitment comes into being, and whether there are more intermediary variables between them, need a further demonstration. In the future brand IP communication activities, we should pay attention to improving employees' job satisfaction and creating a more stable organizational commitment for their brands.

5.2.3 Organizational commitment and brand citizenship behavior

Organizational commitment, as a positive emotion based on intangible benefits, can not only promote employees' loyalty to the organization but also promote their brand citizenship behavior to the organization. The empirical study shows that the organizational commitment of urban rail transit employees has a significantly positive impact on brand citizenship behavior, and it plays an intermediary role in the process of brand IP communication affecting the brand citizenship behavior of urban rail transit employees. Therefore, the emotional commitment of urban rail transit employees is very important, which can promote their brand understanding and internalization of value, so as to carry out related behaviors that are conducive to brand development. For the cultivation of brand citizenship behavior of urban rail transit employees, the direct influence of brand IP communication and the intermediary influence of job satisfaction and organizational commitment should be considered emphatically, so as to provide a more efficient path for improving internal brand management. High-quality internal brand management further promotes the brand IP communication of urban rail transit and lays a solid foundation for city image communication.

5.3 The Moderating Effect of Brand IP Attitude on IP Communication and Brand Citizenship Behavior of Urban Rail Transit Employees

With the development of brand IP communication, different cultural background, age, and other factors will affect the employees' attitudes towards urban rail transit IP. After adding brand IP attitude as a moderating variable, brand IP attitude has an obvious positive moderating effect on brand IP communication through two mediating variables: job satisfaction and organizational commitment, but it does not show a significant moderating effect on the path that directly affects brand citizenship behavior. The results show that when the brand IP attitude is positive, it has a significant positive adjustment to job satisfaction and citizen brand behavior. When the brand IP attitude is at a medium level, the brand IP communication has no significant moderating effect on job satisfaction and citizen brand behavior. When it is poor, it has no moderating effect on job satisfaction, but it still has a significant positive moderating effect on brand citizenship behavior. And the brand citizenship behavior will be regulated by it, thus reducing the positive role of brand citizenship behavior. Therefore, we should pay attention to the management and guidance of the brand IP attitude and promote the optimization of brand IP attitude from the inside to the outside.

6. Conclusions and Suggestions for Future Research

Brand IP communication is conducive to promoting brand citizenship behavior, further driving the IP construction of urban rail transit, and exerting the IP value of urban rail transit for urban image communication. It is found that brand IP communication has a direct and positive impact on the brand citizenship behavior of urban rail transit employees. In order to further explore the influence mechanism of the brand IP communication on the brand citizenship behavior of urban rail transit employees, job satisfaction and organizational commitment are added to play an intermediary role. Finally, it is found that brand IP communication positively affects the job satisfaction of urban rail transit employees, and job satisfaction can effectively enhance organizational commitment, thus promoting brand citizenship behavior. Finally, the two research paths of brand IP communication are regulated by brand IP attitude, and the positive or negative attitude of brand IP has different effects on brand citizenship behavior. Therefore, in the process of promoting brand IP communication to influence the brand citizenship behavior of urban rail transit employees, not only job satisfaction and organizational commitment but also brand IP attitude should be considered, so as to promote the internal brand management construction.

Indeed, this study also has some limitations. For example, in this study, job satisfaction and organizational commitment are regarded as the intermediary factors of brand IP communication affecting the brand citizenship behavior of urban rail transit employees. However, this process is far more complicated than the model in the study. There is a close relationship between brand communication and brand citizenship behavior, but due to the complexity of its communication process, there may be some influential factors, such as brand attitude and brand commitment. In addition, due to the particularity of the visitors, we can further adopt qualitative research, excavate the deep logic found in the research, compare different cities, and enhance the richness of the results.

References

- [1] Huang, Lin. "Paradigm Innovation of Urban Image Communication in the Context of Visual Communication in 5G Era". *Journal of Sichuan University of Science & Engineering (Social Sciences Edition)*, 2020, 35(06): 84-100.
- [2] Guo, Ke., Yue, C., & Yan, D. "Reflection on Generative Mechanism of International Communication of City Image". *Journalism Research*, 2018(06): 1-8+146.
- [3] Qureshi Fatima Nawaz., Bashir Shahid, Asif, M., Sheraz, A., Saman, A., & Muhammad, Z. "Impact of Internal Brand Management on Sustainable Competitive Advantage: An Explanatory Study based on the Mediating Roles of Brand Commitment and Brand Citizenship Behavior". *Plos One*, 2022, 17(3).

- [4] Rose Du Preez., Bendixen, M., & Abratt, R. "The Behavioral Consequences of Internal Brand Management among Frontline Employees". *Journal of Product & Brand Management*, 2017, 26(3).
- [5] Leijerholt Ulrika. "What about Context in Internal Brand Management? Understanding Employee Brand Commitment in the Public Sector". *Journal of Marketing Management*, 2021, 37(13-14): 1243-1266.
- [6] Shi Fengling. "Review of Brand and IP from the Perspective of Intellectual Property". *Research on the Generalized Virtual Economy*, 2020, 11(03): 29-34.
- [7] Chen Si. "Application of IP-based Brand in the Era of 'Internet plus'". *Journal of Wuyi University*, 2020, 39 (08): 33-38.
- [8] Xie Lishan., Jiamin, P., & Chunlin. Z. "The Impact of Brand Citizenship Behavior (BCB) of Employees in Tourism Businesses on customers' Brand Trust and Brand Promise". *Tourism Tribune*, 2010, 25(11): 58-65.
- [9] Zhang Hui, Changhong, B., & Zhenbang, N. "Study on the Relationship between Brand Psychological Ownership, Brand Commitment and Brand Citizenship Behavior". *Journal of Management Science*, 2012, 25(04): 79-90.
- [10] Pehler Rico. "Employees' Brand Understanding, Brand Commitment, and Brand Citizenship Behavior: A Closer Look at the Relationships among Construct Dimensions". *Journal of Brand Management*, 2018, 25(3): 217-234.
- [11] Zhou Hui, Huijuan, H., & Rui, M. "Study on the Attraction of Employer Branding and Its Formation Mechanism". *Commercial Research*, 2009 (11): 80-83.
- [12] Xu Jingzhe, Wenjie, F., & Jin, H. "Analysis on the Role of IP Brand in the Construction of Corporate Culture of State-owned Enterprises". *Business & Economy*, 2022 (04): 66-67.
- [13] Li Peiguan. "Empirical Study on the Relationship between Employer Branding, Employee Job Satisfaction and Organizational Citizenship Behavior". *Jiangxi University of Finance and Economics*, 2014.
- [14] Ma Ling, Yu, W., & Yun, W. "The Relationship between Employees' Job Satisfaction, Organizational Commitment and Job Performance". *Enterprise Economy*, 2013, 32 (05): 68-71.
- [15] Liu Jingmei & Lifang, P. (2008). "Review of Research on Work Satisfaction, Organizational Commitment and Turnover Inclination". *Standard Science*, 2008 (09), 38-42.
- [16] Porter LW, & Steers RM. "Organizational Commitment, Job Satisfaction, and Turnover among Psychiatric Technicians". *Journal of Applied Psychology*, 1974 (59): 603-609.
- [17] Liu Xiaoping. "The Formation Process of Employee Organizational Commitment: Internal Mechanism and External Influence". *Journal of Management World*, 2011 (11): 92-104.
- [18] Fei Zhu, Jiexuan, Z., & Xiji, Z. "An Empirical Study on the Influential Mechanism between HRM Strength and Service-oriented OCB: The Mediating Effect of Organizational Commitment and the Moderating Effect of Symbolic Employer Brand". *Journal of Central University of Finance and Economics*, 2020 (12): 106-114.
- [19] Lapalme M., Simard G., & Tremblay M. "The Influence of Psychological Contract Breach on Temporary Workers' Commitment and Behaviors: A Multiple Agency Perspective". *Journal of Business and Psychology*, 2011, 26(3): 311-324
- [20] Zhang, Jihua., Ming, T., & Ningning, W. "The Impact of Consumers Witness Front-Line Service Employee Complaints on Corporate Brand Attitudes". *Open Journal of Social Sciences*, 2019, 7(3): 443-457.
- [21] Meng, Hui. "Research on the path of service brand internalization from the perspective of employees". *China Management Informationization*, 2015, 18(16):121-122.
- [22] Burmann C., & Zeplin, S. "Building Brand Commitment: A Behavioral Approach to Internal Brand Management". *Journal of Brand Management*, 2005, 12 (4) :279-300.
- [23] Zhao, Wenlu. "A Study on the Relationship between Employee Satisfaction and Organizational Commitment with Job Performance". *Tsinghua University*, 2012.