

Examining the Factors that Influence the Employee Green Behavior in China Logistics Industry Using Social Identity Theory

Liu Changbo, A.

Graduate School of Business, Universiti Sains Malaysia, 11800 USM Penang, Malaysia

Kavigtha Mohan Kumar, A.

Graduate School of Business, Universiti Sains Malaysia, 11800 USM Penang, Malaysia

Corresponding Author Email: kavigtha.mk@usm.my

Teoh Ai Ping, A.

Graduate School of Business, Universiti Sains Malaysia, 11800 USM Penang, Malaysia

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Abstract

Purpose: The logistics industry has long been among China's top four carbon-emitting industries. However, previous research has shown that the green behavior of employees in the logistics industry has not received sufficient attention. The main objective of this study is to examine the factors influencing the green behavior of employees in the Chinese logistics service provider industry. Additionally, this study will examine how different external factors affect employees' organizational identification and further stimulate their green behavior. **Design/methodology/approach:** The present study will use quantitative research with a survey method. Questionnaires will be used to collect data from logistics enterprise managers. Data screening and analysis will use the Statistical Package for the Social Sciences (SPSS) and SmartPLS 4.0. **Findings:** This study's findings emphasize the mediating role of organizational identification in the relationship between perceived corporate social responsibility (CSR), environmentally specific servant leadership (ESSL), and employee green behavior (EGB). **Practical implications:** It is among the first empirical studies focusing on these relationships in China's logistics industry, which focuses on the individual level. Therefore, the proposed empirical investigations will be helpful to the managers from logistics service providers because they have implications for the organizational environmental sustainability decision-making process. **Originality/value:** By testing this mediating effect in different contexts, this study aims to provide a deeper understanding of the intermediary role of organizational identification between perceived CSR and EGB. Also, this study should benefit the Chinese logistics service providers' managers and policymakers by stimulating them to improve their ability to develop, practice and guide environmental policy.

Keywords: Employee Green Behavior, Perceived CSR, Environmentally Specific Servant Leadership, Organizational Identification, Social Identity Theory

Introduction

According to data from the International Energy Agency, global carbon dioxide emissions continue to rise, reaching 3.68 billion tons in 2022, a year-on-year increase of 0.9% compared to 2021 (Log Research, 2023). Concurrently, the intensity and frequency of extreme weather, changes in disturbance mechanisms, and extreme events such as flooding disasters, cyclones, and heatwaves have increased across various regions (Parmesan and N. Stevens, 2022). Consequently, the climate consensus has transitioned from a crisis to a state of emergency (Zaidi et al., 2023).

There is no doubt that climate change and the disasters it triggers require coordinated changes in individual, organizational, and societal behavior (George et al., 2016). However, to date, most major logistics companies focus primarily on technological investments while placing insufficient emphasis on motivating and guiding logistics employees' green practices. According to Zhang et al (2021), where they stated that the important reason that hinders organizations (such as logistics enterprises) from achieving low carbon goals is that the focus of most enterprises on green practices has been placed on green innovation, transformation, and integration, neglecting the guidance of employees' environmental values and their green intention to engage in environmental initiatives. This is consistent with the findings of Katz et al (2022); Li et al (2023); Norton et al (2015); Tang et al. (2023); Zacher et al (2023), who suggest that EGB can be seen as central to organizational environmental sustainability. Therefore, identifying the factors that contribute to promoting and ultimately changing EGB is important for organizations such as logistics service providers (Mehrajunnisa et al., 2022; Pham et al., 2019; Unsworth et al., 2021).

Perceived CSR is a significant factor influencing EGBs at the organizational level (Tang et al., 2023), defined as the perceived presence of socially and environmentally responsible practices and policies aimed at enhancing the welfare of various stakeholders (Turker, 2009), it can affect employees' attitudes and intentions toward societal and environmental concerns (Afsar et al., 2018; Celma et al., 2014). Notably, previous studies have shown some inconsistency in exploring the effects of perceived CSR on employees' green behaviors, especially when considering organizational identification as a mediator. For example, Shah et al (2021), examined how perceived CSR affects organizational identification and support for environmentally friendly behaviors among co-workers. They found that employees' perceptions of CSR positively contribute to organizational identification, which in turn motivates co-workers to participate in environmental initiatives, which promotes employees' pro-environmental behaviors and ultimately leads to more environmentally beneficial actions. This is consistent with the research results of Afsar et al (2018), and Tian and Robertson (2017). However, several studies by Duarte and Mouro (2022), and Khan et al (2023), suggested that organizational identification does not play a significant mediating role in connecting the relationship between perceived CSR practices and voluntary pro-environmental behaviors in the workplace. Therefore, another purpose of this study was to explore the role of organizational identification in different contexts, particularly its potential mediating role in connecting perceived CSR with employees' green behaviors.

Moreover, ESSL has garnered interest from both scholarly and practical circles (Robertson and Barling, 2017; Tuan, 2018; Yanchun et al., 2023). ESSL is a leadership practice that prioritizes environmental interests over economic ones, actively fostering environmental values among corporate stakeholders, such as employees and customers (Tuan, 2018). Recently, an increasing number of scholars have explored the role and mechanisms of this leadership in promoting pro-environmental behavior among employees. However, there remains limited literature examining the mediating role of organizational identification in the relationship between ESSL and EGB. Moreover, recent literature has also called for an exploration of the mediating role of organizational identification in the relationship between ESSL and EGB (e.g., Islam et al (2023), Song et al (2024). Therefore, another task of this study is to investigate the relationship between ESSL, organizational identification and EGB.

Overall, the primary objective of this study is to incorporate organizational-level and leadership-level factors into a theoretical model to examine the impact of perceived CSR and ESSL on EGB and the moderating effect of organizational identification on the relationship between these various factors (e.g., perceived CSR and ESSL) and EGB.

This research can contribute to the literature on employee green behavior and social identity theory in several ways. First, by identifying the connections between organizational identification, perceived CSR, ESSL, and EGB, this study delineates the differing impacts of external factors at various levels on employees' self-identity (organizational identification). Second, this research addresses calls within the literature on workplace green behavior regarding whether organizational identification mediates the relationship between ESSL and EGB. Finally, by clarifying the mediating role of organizational identification in the relationship between perceived CSR and EGB, this study provides additional empirical evidence to support the existing conclusion.

Literature Review

Theoretical Underpinning

Social identity theory has gained significant recognition as a crucial framework for comprehending self-identity and identification within organizations since Ashforth and Mael (1989) introduced organizational identification into organizational research (Mozes et al., 2011). Subsequent studies have consistently demonstrated the applicability of social identity theory in comprehending and predicting how employees perceive and respond to CSR initiatives (De Roeck et al., 2016; Mael and Ashforth, 1992; Peng et al., 2020; Salameh et al., 2023; Su and Swanson, 2019; Zafar et al., 2022) as well as leadership (Fatoki, 2021; Islam et al., 2023; Tuan Trong, 2019; Zheng et al., 2021). In addition, self-identity made a substantial contribution to the prediction of behavior, surpassing the influence of other factors in the theory of planned behavior, even when accounting for the impact of past behavior (Cheng et al., 2022; Dean et al., 2012; Jung and Bice, 2019; Whitmarsh and O'Neill, 2010). This study investigates the factors that influence the EGB in logistics corporations. Therefore, social identity theory can enhance comprehension of EGB situations among personnel working for logistics service providers in China.

Under organizational environmental sustainability scenarios, on the one hand, employees can perceive the positive impact of CSR practices on society and the environment and feel proud to be a member of the organization, thereby strengthening their sense of

organizational participation and belonging, changing their organizational identification, and influencing their behavior (Ashforth and Mael, 1989; Riketta, 2005). On the other hand, from the perspective of social identity theory (Tajfel and Turner, 1979), similarly, colleagues' behavior and leadership can change employees' self-identity (e.g., organizational identification (Mael and Ashforth, 1992), environmentally (green) self-identity (Becerra et al., 2023; Huang et al., 2023), and green role identity (Tuan, 2020)), and further to influence their environmentally friendly behavior. With that, it is explained through social identity theory that perceived CSR and leadership can influence employees' organizational identification and promote a better level of green behavior among employees.

In a nutshell, perceived CSR and ESSL are used in the present study as an external context factor to shape an individual's organizational identification under organizational environmental sustainability scenarios. Therefore, stronger organizational identification can be expected to enhance the best green behavior of Chinese logistics service providers' employees and achieve the low-carbon and sustainable development goals of Chinese logistics service providers. With that, it is seen that social identity theory is the best-fitted underlying theory in this study as it can annotate the casual relationships among perceived CSR, ESSL, organizational identification, and EGB.

Employee Green Behavior

Ones and Dilchert (2012) said EGB includes any behaviors that 'avoid environmental harm, conserve resources, contribute to working sustainably, influence others to behave sustainably, or take the initiative to act sustainably'. Task-related EGB refers to green actions carried out in the context of assigned work tasks. Some employees may also engage in green behavior beyond the necessary for their daily task scope, which exceeds the requirements of their organizations, called proactive EGB (Alt and Spitzbeck, 2016; Boiral et al., 2015).

In the context of "carbon neutrality" (Zhao et al., 2022a; Zhao et al., 2022b), the main goal of Chinese logistics enterprises is to reduce carbon emissions, the environmental sustainability policies and solutions mainly focus on the green management of enterprises and employees. Therefore, both task-related EGB and proactive EGB are encouraged to meet the goals of logistics sustainability. Similarly, this study will follow the Ones and Dilchert (2012) definition that 'EGB is scalable actions and behaviors that employees engage in or bring about that is linked with, and contribute to, the environmental sustainability of logistics enterprise'.

Perceived Corporate Social Responsibility

CSR has long been the subject of extensive research, beginning in the 18th century, as the Industrial Revolution triggered a social concern among some employers for workers and family members (Caligiuri et al., 2013). Rupp et al (2013), said that employees' perception of their organizational CSR might have a greater and more immediate impact on their subsequent reactions than the actual behaviors of the company, which employees may or may not be aware of. Many scholars have focused on studying the effects of CSR perception on various aspects of employees' behavior in the workplace. These include their job satisfaction (Valentine and Fleischman, 2008), employee engagement and commitment (Wang et al., 2020a), organizational citizenship behaviors (Cheema et al., 2020) and pro-environmental behavior (Afsar and Umrani, 2020). This study aligns with the micro/psychological perspective, as demonstrated by Duarte (2011); Farooq et al. (2017);

Rupp et al. (2013); Su and Swanson (2019). It conceptualizes CSR as employees' impressions of their organization's CSR, rather than focusing on the objective socially responsible behaviors of the firms. The perceived CSR refers to the employees' perception of the logistics enterprise's socially and ecologically responsible practices and policies, which aim to improve the well-being of different stakeholders (Tian and Robertson, 2017; Turker, 2009).

Environmentally Specific Servant Leadership

Servant leadership priorities service to others (e.g., employees, customers, and the community) as the first task of leadership (Spears and Lawrence, 2002; Tuan, 2018). They serve as an exemplar, demonstrating empathy, selfless principles, and a dedicated devotion to the objectives of their group (Whittington, 2017). Robertson and Barling (2017), propose that servant leadership can be extended to environmental contexts to explore the role of such ESSL on environmental performance. ESSL can help an organization's environmental performance by offering resources, empowering, and guiding their subordinates to become environmentally friendly role (Popescu and Popescu, 2019). Based on Hale and Fields (2007) definition, servant leadership is "a practice of leadership that places the good of those led over the self-interest of the leader". Tuan (2018) defined ESSL as leadership that places environmental concerns as a higher priority than personal and corporate objectives, aims to cultivate pro-environmental ideals among those involved in the organization. This innovative leadership integrates environmental, sustainable and servant leadership concepts (Tuan, 2018), which is derived from the evolution of global environmental issues and organizational social responsibility.

Organizational Identification

Social identity theory, proposed by Tajfel and Turner (1979), posits that individuals will compare themselves with certain groups and classify themselves accordingly. After people classify themselves into a specific group, they will tend to adopt behaviors related to similar behaviors among group members. This theory believes that the higher the degree of identification of people with a specific group, the greater the impact on their behavior (Udall et al., 2020). When studying employees' pro-environmental behavior, organizational identification theory (Weber, 1947), social identity theory (Tajfel and Turner, 1979), and self-categorization theory (Turner et al., 1987) are important for understanding employee self-identity and green behavior. Scholars have long debated the significance of self-identity as an indicator of the influence of environmentally friendly behaviors. Self-identity is usually understood as a term used to describe a person's self-awareness (Cook et al., 2002), related to the specific manifestation of self-concept salience (Conner and Armitage, 1998).

Recent research has assumed that self-identity and pro-environment behavior are associated (Huang, 2023; Udall et al., 2020), because self-identity reflects employee and organizational behavior and motivations (Panda, 2023). At a very early age, Sparks and Shepherd (1992) said self-identity not only explains individual consumer choice behavior (Belk, 1991; Dermody et al., 2015) but is more significant in explaining personal pro-environmental behaviors, and its influence is more potent than that of attitudes and values (Whitmarsh and O'Neill, 2010). Dermody et al. (2015) confirmed that self-identity could mediate the influence of personal values on behaviors, which reflects the motivation and beliefs that drive behaviors. Organizational identification (Afsar et al., 2018; Shah et al., 2021;

Tian and Robertson, 2017) and green identity (Huang, 2023) are the main variables used in social identity theory to explain employees' pro-environmental or low-carbon behaviors.

Research Hypotheses

Based on the literature review above, it is empirically developed from previous studies that perceive CSR, ESSL, GPI, and organizational identification are significantly related to employees' green behavior. Hence, the mediating variables presented are organizational identification to delineate the causal mechanism behind the relationships between the independent variables and EGB (see Figure 1).

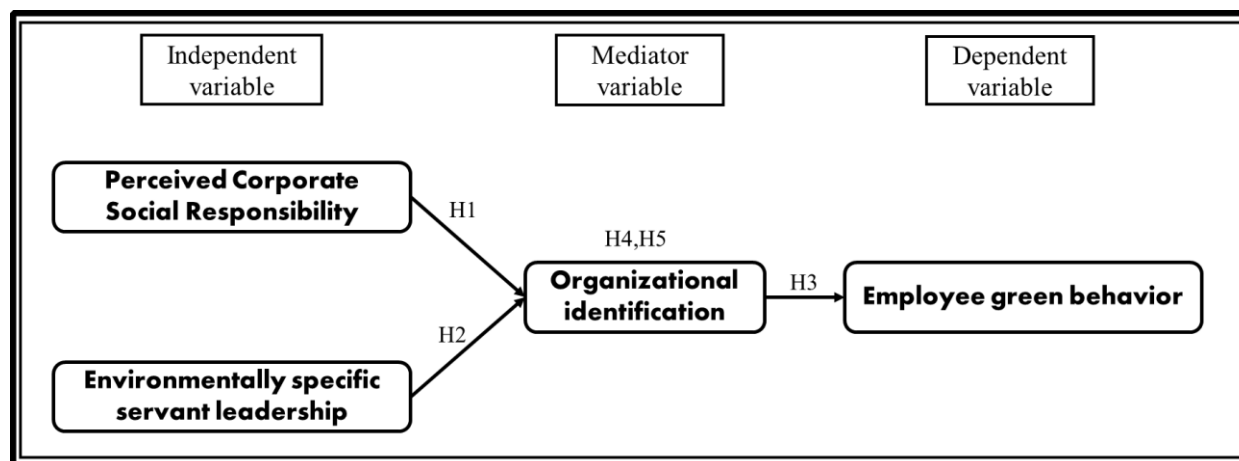


Figure 1 Research Framework

Relationship between Perceived CSR and organizational identification

According to social identity theory (Tajfel, 1978), perceived CSR has been treated as an important external stimulus (external context factor) that influences employee behavioral intention and behavior. This can occur by stimulating organizational identification and green self-identity because both individual and organizational identification are crucial factors that influence behavior, intention, and practices (Panda, 2023).

As stated by Ashforth and Mael (1989), "organizational identification" reflects "the extent to which individual define themselves in terms of the membership in the organization" (van Knippenberg and Sleebos, 2006), which has held a prominent position in the literature on self-identity (Panda, 2023). De Roeck et al (2016), Glavas and Godwin (2013), and Vlachos et al. (2014) stated that perceived CSR refers to how employees perceive the organization's actions to improve the welfare of external stakeholders, such as the natural environment. Their organization's initiatives can strengthen employees' identification with the organization through organizational trust, thereby promoting employees' supportive attitudes and behaviors (De Roeck and Delobbe, 2012). In addition, Afsar et al (2020), proposed that socially responsible companies will disseminate information about CSR initiatives to employees through various channels such as emails, newsletters, seminars, etc. (Afsar and Umrani, 2019). Furthermore, De Roeck et al (2016), found that the perceptions of CSR can influence employees' sense of fairness. When the company actively engages in CSR initiatives, it can gain external prestige. Employees, through their perceptions of external groups' evaluations or feedback regarding the organization, develop or enhance their sense of organizational pride, which predicts their organizational identification. Results indicate that higher employee

involvement in CSR predicts greater employee identification with their organization (Mozes et al., 2011), as they experience more job satisfaction and work motivation.

This is in line with the findings of Suganthi (2019), as well as Cheema et al (2020), and Ashforth and Mael (1989), where a relationship is being claimed between positive perceived CSR and organizational identification. Moreover, Wang et al (2020b), stated that perceived CSR enhanced employees' organizational identification through two distinct mechanisms. First, the responsible behavior of the enterprise establishes a good social image for the organization and promotes the pride of the employees (Farooq et al., 2017; Glavas, 2016). Second, if a company demonstrates its commitment to social responsibility, employees may internalize the company's values to their own. With that, employees' value recognition can enhance employees' sense of pride and affiliation, increasing their likelihood of fostering organizational identification (Afsar and Umrani, 2019; Gully et al., 2013; Jones, 2010). This further supports that the higher the perceived CSR in an organization, then the higher the employees' organizational identification level. This aligns with the principles of organizational identity theory, which is a branch of social identity theory (Ashforth and Mael, 1989). Therefore, the following hypotheses are proposed:

H1: There is a positive relationship between perceived CSR and organizational identification.

Relationship between environmentally specific servant leadership and organizational identification

According to social identity theory (Tajfel, 1978), leaders who develop strong bonds with their subordinates will cultivate their self-identity (such as organizational identification, green self-identity, and team green identity) through social or work-related interactions between employees and team leaders (Ellemers et al., 2004). From an environmental perspective, this self-identity indicates the extent to which employees see themselves as environmentally friendly entities, either as individuals or as groups (Siddiquei et al., 2021). In this way, employees who identify themselves as members of an organization or group will act in ways that benefit the goals of their company or group (Tajfel, 1978).

According to Zafar et al (2022), ESSL fosters employees' voluntary pro-environmental actions by empowering individuals psychologically and fostering organizational identification. Moreover, Zhao et al (2016) proposed that servant leadership plays a crucial role in shaping followers' identification with their superiors and their identification with the organization. They further added that servant leadership can reduce subordinates' fear of approaching their direct supervisor, which is also an important way to establish subordinates' organizational identification. This is in line with Omanwar and Agrawal (2022), as well as Zhang et al (2012), where a relationship is being claimed between positive servant leadership and stronger organizational identification. Zhang et al (2012), also pointed out that servant leadership shapes a positive view of the organization's image by helping followers build a positive environment for growth and development. With that, employees tend to view the organization as attractive and strongly identify with the organization.

From the above justification and based on the perspective of social identity theory (Ashforth and Mael, 1989; Tajfel, 1978), it is expected that ESSL could cause a rise in the level of organizational identification. Therefore, the following hypotheses are proposed:

H 2: There is a positive relationship between environmentally specific servant leadership and organizational identification.

Relationship between Organizational Identification and Employee Green Behavior

Past research has found that organizational identification is positively related to employee behavior. Recently, some studies have focused on the mechanisms behind the relationship between perceived CSR and EGB. For example, one study showed that organizational identification is related to EGB (Afsar et al., 2018). In addition, Shah et al (2021), also pointed out that perceived CSR positively predicts EGB through organizational identification and co-workers' pro-environmental advocacy.

In addition, Zafar et al (2022), claimed that ESSL could create an environment-friendly climate in their organization, encouraging employees to identify with their enterprise to fulfil their self-esteem demands. Consequently, employees take part in proactive pro-environmental behavior, such as inspiring pro-environmental behavior among their coworkers. This phenomenon can be delineated through social identity theory, which indicates that individuals who have a stronger sense of organizational identification are more likely to exert greater effort in their organizational activities, such as engaging in environmentally friendly behavior. Empirical evidence has been found in numerous industrial contexts that confirm a favorable association between organizational identification and EGB(Cheema et al., 2020; Gkorezis and Petridou, 2017; Tian and Robertson, 2017; Yuan and Li, 2023). Therefore, the following hypothesis is formulated:

H 3: There is a positive relationship between organizational identification and employee green behavior.

Mediating Role of Organizational Identification on the Relationships between Perceived CSR and Employee Green Behavior

Previous studies stated that organizational citizenship behaviors for the environment (Cheema et al., 2020), green consumption behavior of Chinese tourists(Su et al., 2017), and pro-environmental behaviors(Shah et al., 2021) can be elevated by perceived CSR through organizational identification as a mediator. They further added that organizations implementing social responsibility policies, especially environmental social responsibility, can convey their positive and environmentally friendly values to organizational stakeholders (such as employees, consumers, and investors), which may influence their values and guide them to participate in environmentally friendly behavior. Therefore, this is in line with the present study that EGB, which is positively related to organizational environmental sustainability (Huang, 2023; Katz et al., 2022; Vila-Vázquez et al., 2023), can be increased with the application of a higher level of perceived CSR in an organization through organizational identification as the mediator. Hence, organizational identification is a potential mediator between perceived CSR and EGB. Thereupon, the following hypothesis is proposed:

H4: Organizational identification mediates the relationship between perceived CSR and employee green behavior.

Mediating Role of Organizational Identification on the Relationships between d Employee Green Behavior

According to social identity theory, leaders can shape employee behavior through employees' self-identity (Hobman and Frederiks, 2014; Zheng et al., 2021). Prior empirical

studies have shown a positive association between ESSL and an individual's self-identity (Siddiquei et al., 2021; Zheng et al., 2021). Recently, some articles stated that employees' workplace pro-environmental behaviours could be elevated by ESSL through green organizational identification (Yuan and Li, 2023). They further added that under the influence of the example of ESSL, employees generate or activate environmental cognition, acquire and accumulate information or resources related to green behaviors through interaction with leaders, and invest the obtained information and resources into environmental behaviors, to achieve the environmental sustainability goals of individuals and organizations. This is in line with Zafar et al (2022)'s proposal, where they said that ESSL possesses a significant indirect relationship with employees' green behavior, via the mediation of organizational identification. Thereupon, the following hypothesis is proposed:

H5: Organizational identification mediates the relationship between p environmental-specific servant leadership and employee green behavior.

Research Methodology

This study will be based on the positivism philosophy, deductive approach, and quantitative method to achieve the goal of this study. The fundamental of this study is to validate the theoretical model to examine the impact of various contextual factors on employees' green behavior while considering the mediating role of organizational identification. Based on methodological preference, the present study will use a quantitative research design with a survey methodology. Questionnaires will be used to collect data from logistics enterprise managers to estimate the characteristics of a large population of logistics enterprise staff in China. Because the survey information collected from respondents is effective and practical in describing, comparing, or predicting people's knowledge, opinions, and behaviors (Fink, 2003).

A field study, comprising a cross-sectional both online and offline survey, will be employed for this research. Compared to other countries, China's logistics market has ranked first in the world for seven consecutive years (Haoming, 2023). Hence, the study's data will be gathered from China. In this study, the possible selected population for the present research is managers who have held management positions in China logistics service providers for over three months. The central reason for choosing this population is front-line personnel have a high turnover rate.

In addition, according to Yang (2023), the major source of carbon emissions in the logistics industry of China is delivery. Therefore, the express delivery industry is an important source of carbon emissions and a top priority for national emission reduction. In addition, according to China Federation of Logistics and Purchasing (2023), JD.com and Shun Feng Group Co., Ltd. are the two logistics service providers with the largest market share in China's express delivery industry. Lastly, data screening and analysis will use the Statistical Package for the Social Sciences (SPSS) and SmartPLS 4.0.

Conclusion

The transportation, loading and unloading, handling, storage, and auxiliary logistics activities of goods are the primary sources of carbon emissions in China's logistics industry, with carbon emissions generated from transportation and distribution activities accounting for approximately 85% (Yang, 2023). Moreover, the growth rate of carbon emissions in the

express delivery industry exceeds that of the overall industry, and more aggressive emission reduction measures are needed (Yiwen et al., 2023). According to George et al. (2016), climate change and the disasters it triggers require coordinated changes in individual, organizational, and societal behavior, and several scholars claimed that EGB can be seen as central to organizational environmental sustainability (Banwo and Du, 2019; Zafar et al., 2022). Thus, this study focuses on the effect of the factors on logistics EGB. Based on the literature, we can find that perceived CSR and ESSL are important factors that can predict EGB. Therefore, this study combines those variables into a framework underpinned by social identity theory to examine the EGB of logistics service providers in China. This may be empirically validated by administering a survey instrument to JD Logistics and Shun Feng Group Co., Ltd employees. The model has not previously encompassed this goal and context.

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