

# Organizational Sustainability Practices, Employee Engagement and Organizational Citizenship Behavior: An Employees' Perspective on their Working Firm

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## Abstract

Organisational citizenship behaviour refers to an employee's civic engagement at work that goes beyond the scope of their role. Purpose of this study is to investigate the perspective of an employee on the organizational sustainability practices in fostering Organisational citizenship behaviour in the context of medical device industry. This study also aimed to examine the mediating role of employee engagement in enhancing Organisational citizenship behaviour among employees. The sample of this study are employees working in medical device manufacturers in Malaysia. Purposive sampling was used, and data was collected using a quantitative approach through a self-administered questionnaire. A total 140 employees have participated, and data was processed with the use of the SmartPLS. The results revealed that gender equality, job security and perceived organizational support towards environment are mediated by employee engagement in influencing organizational citizenship behavior. The research findings also shows that human resources practices, green manufacturing and safety practices as it did not have significant effect on employee engagement and to organizational citizenship behavior. This research emphasizes that employee engagement is the key to assisting in improving organizational citizenship behavior because the values of employee engagement are inherent and have a strong relationship in influencing organizational citizenship among employees.

**Keywords:** Human Resource Practices, Green Manufacturing, Job Security, Employee Engagement, Organizational Citizenship Behavior

## Introduction

Organizational citizenship behavior (OCB) is the term used to describe an employee's civic engagement at work that goes beyond the requirements of their position. Going above and beyond the call of duty at work may be how you would describe it (Cheema et al., 2020). In another words, discretionary activity that enhances the effective running of the organization

but is not immediately or explicitly rewarded by the official incentive system is termed as OCB (Podsakoff et al., 1990) and it may have a positive relationship with organizational ethical working environment and corporate sustainability performance (Lee & Ha-Brookshire, 2017; Shin, 2012). Eungoo & Hwang, (2023) in their study stated OCB performs tasks that are outside the scope of one's professional job description in its most basic form. When an employee exhibits OCB, it demonstrates the person's contribution or devotion as an organizational citizen (Sahoo & Mohanty, 2019).

It is apparent that values play a significant influence in shaping an organization's internal features. Internal organizational values that regulate organizational conduct play an important role in social relationships and the establishment of a considerate working atmosphere. George and Jones (2007) made the case that good citizenship behaviour is crucial for organizational teamwork, decision-making, and competence development. Such characteristics are critical components of an organization's sustainability-oriented ideals. In the study conducted by Pham et al. (2021), a direct link between hotel employees' perceptions of their green performance and OCB was found. Similarly, in the research conducted by Pradhan et al. (2020), sustainability practices were discovered to significantly moderate the connection between self-efficacy and OCB demonstrating that executives who perceive both self-efficacy and sustainability practices are more likely to engage in positive OCB. His study also revealed that top management is in charge of developing a long-term plan for achieving an engaged and motivated workforce, which is likely to foster the growth of OCB in organizations.

In today's economic expansion, sustainability is a critical requirement for industrial businesses. As per Afzal and Lim (2022), the foundation of sustainability is the idea of mitigating the negative effects that a country's socioeconomic and urban growth has on the health of its society and the environment. By implementing sustainability efforts, businesses may gain a variety of benefits such as a favorable reputation, increased stakeholder relations, efficient resource planning, a competitive advantage, greater investment returns, and profits (Horak et al., 2018). Sustainable development is therefore one of the key objectives of company's missions that enhance competitive edge (Begum Ebrahim et al., 2019). One of the largest industries in the healthcare sector is the manufacturing of medical devices. The industry is significantly fueled by the ideas of innovation and fresh, methodical research. The energy consumption of the goods made by medical device manufacturers may be affected during the design phase, which has an overall impact on the energy use in the healthcare industry. Medical devices paradoxically have a detrimental effect on public health since they add to the environmental pollutants produced by the healthcare industry (Sherman et al., 2019). Given how heavily reliant on medical technology contemporary healthcare is, medical devices have a direct impact on its sustainability (Minna Makki, 2022). Due to the recent interest in investing in cutting-edge technological innovation, it has been seen that this industry has experienced exceptional growth. The medical device sector is extremely important and vital since it affects patient safety. As a result, it is critical to operate the industry with a sustainability attitude.

Hence, organizations are progressively realizing that the sustainability viewpoint must be integrated into the business model since any type of redevelopment has an impact on society in general and stakeholders. As a result, sustainable employee practices have emerged as one

of the primary areas of focus for organizations today (Mishra, 2014). Any organization must carefully analyze both its internal and external settings before defining its sustainable corporate development plan. If the company wants to be successful in the long run, it must define its precise objectives and guiding principles. They must also be properly accepted, acknowledged, and encouraged by the employees of the organization (Oertwig et al. 2017). Additionally, they need to get appropriate acceptance, gratitude, and encouragement from the employees (Balčiūnaitienė & Petkevičiūtė, 2020). Thus, perception of an employee could be taken on how the sustainability practices internally could be evaluated to achieve organizational sustainability.

According to Bala and Balaji (2022) in their paper on organizational sustainability, one of the six factors relating to organizational sustainability is on the organizational sustainability practices. Organizational sustainability practices studied by this research focused on job security, gender equality, human resources practices and safety practices. Our current study differs from the one conducted by them as the focus of this study would only be on organizational sustainability practices and how does it affect the OCB in employees.

With that being said, how do all these practices assist in building engagement in employees to work and contribute to the organizational sustainability by fostering the OCB? Employee engagement is a cognitive, emotional, and positive tool, and an individual's dedication reflects an organization's success (Sahoo & Mohanty, 2019). Organizations that concern about their employees, gain employee engagement in return (Sypniewska et al., 2023). Hariyani and Mishra (2022) identified employee engagement as one of the enablers in the sustainable development of an organization. They mentioned that employees have a significant potential for improving system performance inside the company because they are directly involved in manufacturing activities and are knowledgeable about solutions to many workplace issues. As a result, their input must be considered during the system design process to increase the sustainability of the process, the product, and the system.

To date, less connection and research has been made to employee engagement and OCB in regard to organizational sustainability practices in medical device manufacturing context. Thus, based on mapping of former research and recognizing these gaps in knowledge, the goal of this research is to understand more about organizational sustainability practices that an organization employs to foster a sense of belonging among its employees, which in turn affects OCB. In addition to that, two other practices that are being introduced along this study are perceived organizational support towards the environment and green manufacturing.

Mainly, the objective of the study is to investigate the perspective of an employee on the organizational sustainability practices in fostering OCB in the context of medical device industry. This study also aimed to examine the mediating role of employee engagement in enhancing OCB.

***RQ1: What is the Relationship Between Organizational Sustainability Practices with Employee Engagement?***

***RQ2: What is the Relationship Between Employee Engagement with OCB?***

***RQ3: What is the Role of Employee Engagement as the Mediator Between Organizational Sustainability Practices and OCB?***

To achieve the research objectives and questions, the paper is divided into five sections: the first section introduces the significance of sustainability in the context of the medical device industry and describes how organizational sustainability practices influence employees' engagement and, eventually, the development of OCB. The second section describes the research model and the theoretical framework for developing hypotheses, which shows how the variables relate to one another. The study technique, including methods for measuring questionnaire responses and gathering data, is covered in the third part. The study findings, which include the evaluation of the measurement model and structural model analysis, are presented in the fourth part. The conclusion section summarizes the research's findings and discusses them in relation to earlier literature. The paper finishes with a conclusion, recommendations for more research, and an analysis of the theoretical and practical implications of the study.

### **Literature Review**

In his paper "Social Behaviour as Exchange" from 1958, sociologist Homans explicitly presented social exchange theory (SET). People consider the alleged advantages and disadvantages of an exchange before determining whether to conduct a resource transaction, as per the SET. Employees' feeling of place, effectiveness, and self-identity are satisfied by organizational psychological ownership, and they frequently reciprocate by engaging in behaviours that are advantageous to the organization (Shore & Tetrick, 2006). Since employees have a considerable impact on an organization's success or failure, they are one of its most important stakeholders. According to SET, there is a relationship between people that involves reciprocity, with employees responding in terms of perception and performance in relation to the care and knowledge they get from their employers (Liaquat & Mehmood, 2017). Similar to this, positive attitudes and extra-role behaviour may occur when workers of a business feel that their organization cares about their wellbeing and socially responsible actions. Researchers also firmly believe that employee engagement serves an important function in ensuring the sustainability of an organization (Hurtienne, 2022; Mehrzi & Singh, 2016). According to the social exchange hypothesis (Cropanzano & Mitchell, 2005), identifying measures to boost employee engagement will benefit both employees and employers in a reciprocal manner. Employee-organization relationships are frequently defined as an exchange relationship (Coyle-Shapiro & Shore, 2007). Relating organization citizenship theory to SET, according to Liaquat and Mehmood (2017), SET serves as a foundation for OCB and helps to understand the exchange connection between employee organizations. Therefore, this research attempts to describe the connection that employee engagement has on the OCB in regards to the organizational sustainability practices.

### **Research Gap**

Past studies have been captured in the table below which talks on sustainable workplace, organizational sustainability and OCB.

Table 1

*Past Studies on Sustainability in Context of Employees*

No	Author	Title	Findings
1	Rifai et al. (2021)	Employee's Attitude and Organizational Sustainability Performance: An Evidence From Jordan's Banking Sector	In order to improve sustainable performance, this study advocates concentrating on employees' attitudes in the banking industry and other industries.
2	Liaquat & Mehmood, 2017	Organization Citizenship Behavior: Notion of Social Exchange Theory	Based on the idea of SET, the research aims to uncover organizational and human traits that could function as key mechanisms for causing OCB.
3	Kijpokin Kasemsap, (2012)	Factors Affecting Organizational Citizenship Behavior of Passenger Car Plant Employees in Thailand	The link between organizational justice and OCB is entirely mediated by organizational commitment. Additionally, a favourable correlation exists between organizational dedication and work happiness.
4	Bani and Ali (2017)	The Impact of Organizational Culture on the Employee's Sustainability in the Manufacturing Industry in Klang Valley.	An excellent mediator that suits both organizational culture and employee sustainability is job satisfaction.
5	Ojebola et al. (2020)	Organizational Citizenship Behaviour And Its Influence On Manufacturing Firms Survival In Nigeria: A Systematic Review	Positive behavioural outcomes are significantly impacted by the identified OCB characteristics. In order to secure the sustainability of the firm, it is advised that organizations push their workers by creating an environment at work that is conducive to extra-role activities.
6	Hami et al., (2019)	An Analysis of Sustainable Manufacturing Practices in Malaysian SMES	The adoption of such practices would improve the investigated businesses' performance in terms of economic, environmental, and social sustainability, but only to a certain extent.
7	Maheswari et al., (2020)	Role of employee relations and HRM in driving commitment to sustainability in MSME firms	A framework with four stages, "awareness, action, comprehensiveness, and excellence (AACE)," was proposed. This paradigm mirrors HRM practices used by MSME enterprises to strengthen their commitment to sustainability.
8	Minna Makki, (2022)	Status of sustainability at medical device manufacturers based in Finland	The study advances knowledge about the supply chain sustainability in the healthcare sector.
9	Greene et al., (2014)	Engaging employees in creating more sustainable workplaces and workstyles	The study illustrated the various perspectives people hold on what sustainability in the workplace should include and who should be held accountable for it.
10.	Sahoo and Mohanty, (2019)	Impact of Employee Engagement on Organizational Citizenship Behavior: An Overview	The authors claim that the elements of employee engagement and corporate citizenship conduct have strong, positive connections.

Based on literature in the table above, Liaquat and Mehmood (2017) in their paper elaborated on the organizational and individual factors that could act as key mechanisms for OCB. Also, the study conducted by Sahoo and Mohanty (2019) demonstrated that clear relationship is present between employee engagement and OCB in the service sector. On the other hand, study by Greene et al.(2014) looked at ways to offer guidance on the most effective ways to raise awareness of environmental sustainability at work among employees and to inspire positive behaviour change as changes in employee behaviour must be considered as part of an organization's efforts to create more sustainable business practices. Besides that, in the study conducted by Rifai et al. (2021), they noted that implementation and expansion of sustainability policies, as well as employee attitudes, have a significant impact on an organization's performance and success. According to Maheswari et al. (2020) on the other hand, the relevance of people management practices in generating commitment to sustainability was underlined in the study on the function of employee relations and HRM in promoting commitment to sustainability in MSME enterprises. In addition to that, in their research on Malaysian SMEs, Hami et al. (2019) discussed on sustainable manufacturing practices, which include employee-oriented sustainability practices. Therefore, there have undoubtedly been numerous studies conducted on behaviours, employee engagement, and sustainability, but none have thus far examined the relationship between organizational sustainability practices and OCB with the mediating role of employee engagement. Thus it can be summarized that there is lacking of research on organizational sustainability practices which helps in boosting the OCB in employees in working towards the goal of sustainability in medical device manufacturing industry. This study fills in the gaps by focusing on medical device manufacturing companies and looking at the context of employees working in the manufacturing.

### **Hypotheses Development**

Utilizing the theoretical lenses of SET theory, this study investigates the impact of organizational sustainability practices which are inclusive of Gender Equality, Job Security, Human Resources Practices, Green Manufacturing, Perceived Organizational Support Towards the Environment and Safety Practices on influencing the OCB in employees. This study also attempts to evaluate the mediating impact of employee engagement on the OCB. Figure 1 below shows the conceptual framework for this research.



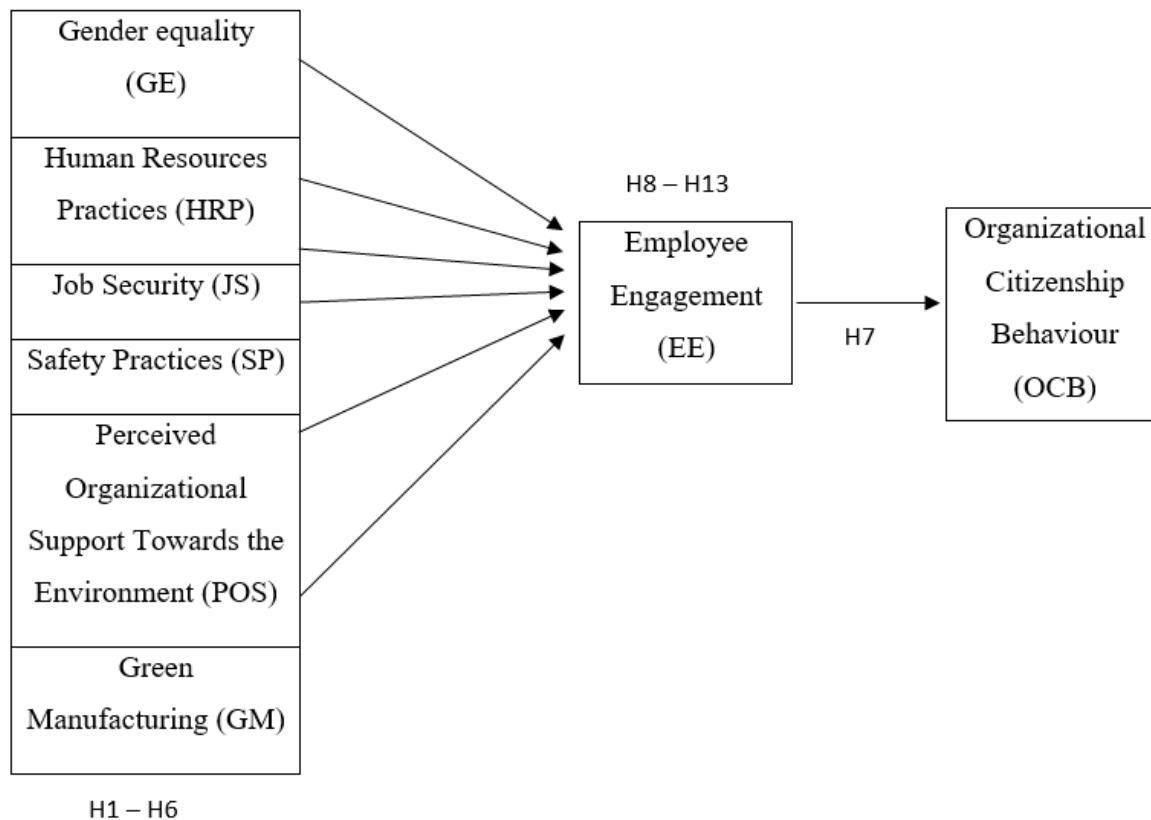


Figure 1: Research Framework

### Gender Equality and Employee Engagement

Gender equality is currently essential to the sustainability of society and the expansion of organizations. In the deficiency of a robust constructive framework for the real-life execution of gender equality practices in organizations, private firms are compelled to mechanically carry out general initiatives or execute the identical social sustainability programmes as their competitors without a crucial and tactical perspective (Gartzia, 2021). In a different scenario, Lorenzo (2015) in her TED talk mentioned that, despite having gender equality policies in place, most firms were unable to raise the ratio of women in leadership and managerial positions. The biggest obstacles to the development of women into high-level controlling roles were the promotion of men to management positions owing to a male-dominated organizational culture and the lack of women-friendly policies (Andrade, 2022).

The concept of gender neutrality implies that disparities in work engagement are due to personal variations and that both men and women can exhibit engagement in equal measure (Tshilongamulenzhe & Takawira, 2015). Gender bias, according to research on sex stereotypes, is an unseen barrier hindering women from rising to the top levels of leadership in business enterprises (Pichler et al., 2008). Engagement is built and investigated using a gender-neutral strategy in which men and women are given equal opportunity to demonstrate their engagement at work (Banihani et al., 2013). According to Garg (2014), variations in gender have also been shown to influence how engaged an individual is at work. Hence, we assume:

H1: There is a positive relationship between gender equality and employee engagement.

**Human resources practices and employee engagement**

Employees may frame and steer their attitude and behaviour to achieve sustainability with the guidance of human resources practices (Galpin et al., 2015). Human resource practices aid in the identification and developing key performance indicators for employees who can help the organization achieve long-term success. They work towards implementing internal and external sustainability training programmes for employees, facilitating knowledge sharing and management programmes within the organization, rewarding and recognizing individuals' ideas and accomplishments in order to achieve the organization's sustainability. As mentioned by Dwivedi et al. (2021) human resources practices have a positive and substantial impact on an organization's capacity to maintain itself and thus suggested that human resource management is the road to long-term success. As a result, while developing organizational strategy, human resources practices should be incorporated. According to Fayad and Easa (2020), employee engagement and work performance are influenced by the availability of adaptable human resources practices. Employee engagement is thought to be significantly influenced by human resources practices (Jani & Balyan, 2016) due to the fact that it assist on learning and growth, awards administration, and fair treatment may serve as sources of fulfilment, convenience, and drive for employees. Thus, we propose:

H2: There is a positive relationship between human resources practices and employee engagement.

**Job Security and Employee Engagement**

Job security as an encouragement promotes productivity at work and leads to an employee's job performance. Job security is the assurance that one will keep going being employed with the aim to avoid being laid off (Simon, 2011). According to Ajala and Ojo (2015), employees utmost desire are to contribute to the firm, feel proud of a job accomplished successfully, and rise to leading positions. But without training that makes them feel engaged to work, staff members are unable to carry out their duties, making it impossible to achieve any of these goals. Job security has evolved into a must-have in both employee and organizational preferences (Adebayo & Lucky, 2012). It has become one of the most critical and vital aspects among employees as well as the organization (Schappel, 2012); KPMG International, 2010), as well as an essential component that influences how people behave at work. In a poll conducted by KPMG International (2010), job security was identified as the top need by over 75 percent of participants while seeking for employment. In their research, Ajala and Ojo (2015) also found a significant link between workplace behaviour and job security. The report suggests that employers ensure job security while offering opportunities for job involvement. So, the hypothesis would be:

H3: There is a positive relationship between job security and employee engagement.

**Safety Practices and Employee Engagement**

According to Griffin and Neal (2002), considerable research experiments show that when supervisors are fully engaged in monitoring and rewarding safety performance, those under them participate in more safety-related behaviour and enjoy safer overall performance compared to when they are not. Employees replicate comparable behaviours when supervisors explain, promote, and support safe work practice. Accordingly, it has been claimed by Aman-Ullah et al. (2022) that employees who operate in safer surroundings are content, dedicated, and fulfilled. Furthermore, even for little compensation, people prefer to work in a safe environment since it is basic human inclination to avoid putting oneself in



danger (Schwatka et al., 2018). As mentioned by Onoh (2021), the majority of employees believe that the standard safety procedures offered to them have a positive impact on their job performance when it comes to how safety practices affect workers' performance on the job. In relation to safety practices in SME's, Adzivor et al. (2022) mentioned that managers may increase employee engagement by efficiently managing staff health and safety problems. Thus, the hypothesis is:

H4: There is a positive relationship between safety practices and employee engagement.

### **Perceived Organizational Support Towards the Environment and Employee Engagement**

It was adapted from the perceived organizational support construct and is described as the collection of "specific principles expressed by employees regarding the extent that the organization values their efforts towards sustainability" (Lamm et al., 2014). It is also worth noting that perceived organizational support for the environment is an aspect of job satisfaction, organizational identity, and employees' environmental activities (Bhatnagar & Aggarwal, 2020; Lamm et al., 2014). According to the hypothesis of reciprocity of SET theory, employees will only offer positive organizational dedication and contribution and make active attitude or behaviour adjustments in order to attain organizational goals if they sense support and care from the organization. The more the perceived organizational support, the higher the degree of employee engagement (Sulistiyawati & Sufriadi, 2020). According to Silva (2021), the beneficial impact of perceived organizational support for the environment on employee engagement shows that managers and team leaders communicate the adoption of sustainable practices and initiatives to the workforce successfully.

Employees who perceive positive organizational support will work harder by prioritizing commitment to goals, monitoring their behaviour to ensure that what is done corresponds to and in line with the goals to be accomplished and also using cognitive ability to make choices on the most effective way to complete a task and making choices to correct if necessary (Sulistiyawati & Sufriadi, 2020). Thus, we have proposed:

H5: There is a positive relationship between perceived organizational support towards the environment and employee engagement.

### **Green Manufacturing and Employee Engagement**

Green manufacturing is defined as the application of suitable and high-efficiency substances in manufacturing to decrease the detrimental environmental effect (Ghazilla et al., 2015). It addresses critical manufacturing challenges such as environmental compliance, natural resource conservation, hazardous material management, and the handling of waste (Zhu & Sarkis, 2004). Employing good manufacturing practices guarantees that organization fulfil product quality requirements and that business activities are mild, safe to employees and the environment via the use of reliable assets and eco-friendly technologies (Wibowo et al., 2018). Overall, green manufacturing makes sure that resources are used as efficiently as possible by eliminating waste, which boosts the efficiency and financial performance of the businesses. Green manufacturing techniques therefore help companies increase organizational effectiveness, which has a favourable effect on financial profits (Roy & Khastagir, 2016). Employees that strictly conform and engage to green manufacturing are truly aware of environmental issues and act promptly (Weerakkody et al., 2022). According to Yusliza et al. (2021), if organizations tend to apply green manufacturing practices productively, employees will execute more satisfactorily, and their level of engagement would rise as a result. Therefore, we hypothesize:

H6: There is a positive relationship between green manufacturing and employee engagement.

### **Employee Engagement and OCB**

It is discovered that employees who exhibit greater degrees of OCB are more firmly anchored in their existing organizations because these behaviours generate social capital, (Becton et al. 2017). When an employee feels involved in the organization, it is believed that he or she is more prone to build excellent relationships with other stakeholders including within and outside of firm, thereby demonstrating engagement (Mishra, 2014). The main result of Podsakoff et al. (1990) research is that civic engagement benefits organizations and benefits both staff members and managers. Studies that have been conducted to ascertain the association between employee engagement and OCB have shown a favourable relationship. According to the study by Yadav (2019) on employees of Indian hotel industry, the results indicates that employee engagement and OCB have a favourable association. According to George and Joseph (2015), their study on employees in transport organizations behaved in terms of OCB and employee engagement demonstrated that employee participation positively affects OCB. Therefore, we hypothesize:

H7: There is a positive relationship between employee engagement and OCB.

### **The Role of Employee Engagement as a Mediator Between Organizational Sustainability Practices and OCB.**

The theoretical foundation for engagement mediation has been drawn from SET. This idea asserts that when both the employer and the employee adhere to exchange rules, the relationship becomes more trustworthy and stable (Cropanzano and Mitchell 2005). According to Alfes et al. (2013), employees who have a positive perception of their organization's human resources practices are more inclined to be involved with their job, and hence more prone to do OCBs and retain with the firm. As mentioned by Detnakarin and Rurkkhum (2016) on perceived organizational support, when employees believe their contributions are valued and their well-being is managed by the company, positive attitudes towards the organization and their jobs rise, leading in OCB. As a result, employee engagement is ideally positioned to serve as a bridge between perceived organizational support and OCB. Employees are appreciative of the business's dedication to improving safety, and psychological ties to the company are projected to grow, leading to decreased desire to leave, greater safety practises, and higher civic engagement. Employee behaviour is influenced by how they believe their employer regards them (Mearns et al., 2010). As stated by Eungoo and Hwang (2023), promotion of OCB and cooperation between employers and employees are necessary to boost morale and boost output.

H8 – H13: Employee engagement positively mediates the relationship between organizational sustainability practices and OCB.

### **Methodology**

This study was conducted by utilizing a structured questionnaire and a quantitative survey. All the measurement scales were adapted from previous studies and some items have been modified to be consistent with the purpose of the study. The research instrument is described below, and detailed information appears in the Appendix. Each dependent and independent variable is constructed to obtain responses from employees. The questionnaire was divided into two sections. The first section focused on demographic characteristics, namely gender, education level, years of service, department and accreditation available in the company. The

second section included 44 items on the eight research constructs. Gender equality was captured using the scales of Kaushik et al. (2014). Five out of 44 items related to human resources practices were measured with scales adapted from Dwivedi et al., (2021). Job security was assessed with measures reported by Twagirumukiza (2014). Safety practices were adopted from Hayes et al. (1998). Whereas scales for perceived organizational support towards environment was taken from Silva (2021) and green manufacturing was measured with scales adapted from Afum et al. (2020). Lastly, employee engagement was assessed with measures reported by Shrestha (2019) and OCB was adopted from Podsakoff et al. (1990). All measures were rated based on a Likert-type scale ranging from 1 (strongly disagree) to 5 (strongly agree).

### **Data Collection**

The present study target on medical device manufacturing companies in Malaysia. The data were collected through purposive sampling from employees who work in the medical device manufacturing companies. Purposive sampling includes choosing units for your sample based on their possession of specific qualities. In other words, in purposive sampling, units are chosen "on purpose".

The rationale of selecting medical device companies is because medical device waste is a global problem as devices become more complex and incorporate more electronic components and mixed materials (Warden, 2022). The medical device businesses and the healthcare sector as a whole should nevertheless practice environmental responsibility whenever feasible even if the medical device industry is subject to strict restrictions, particularly when compared to other industries.

The respondents are key informants who hold executive positions whom has the knowledge on sustainability information and practices in the organization. A solid knowledge regarding sustainability will be expected from selected manufacturers. Thus, the units that are being analyzed for this study are the executives working in medical device manufacturing companies in Malaysia for minimum three years working experience.

G\* Power version 3.1.9.4 software was used to assess the power of the 103 samples generated from number of predictors 7. G\*Power with a statistical significance (level) of 0.05 yielded a power of 0.80 (almost 1). Thus, minimum 103 sample size was utilized in this research. Finally, a link of online survey was distributed to 150 respondents and 140 were returned. A total of 133 useful questionnaires were acquired and represented 95% response rate. Since the responses that was gathered exceeded the needed sample size, hence its power also exceeded 0.90.

Among the 140 questionnaires received, a total of 5% do not have sustainability policies or practices in their company. Thus, 133 (95%) usable responses from respondents were retrieved. Based on Table 3 below on gender analysis, 61.7% of the questionnaires were completed by females and 38.3% by males. Highest education level reported was 46.6% with bachelor's degree followed by 23.3% with Postgraduate degree and 11.3% with Diploma holders. The rest of 18.8% answered in 'other' with response stated as SPM and Electric engineering certificate holder. In terms of years of service, 36.1% worked in the range of 3 to 5 years, 33.8% worked in the range of 6 to 10 years, and 30.1% worked above 11 years. On the department that the respondents are from, those from the production department recorded 53 of them which marks 39.9% of the total respondents followed by QA with 27 respondents (20.3%), Research and Department (R&D) with 24 respondents (18.1%), Processing department with 10 respondents (7.5%) and engineering department with 19

respondents marking 14.2%. On the accreditation available in the company, 103 (77.4%) respondents has ISO9001 (Quality Management System), 80 respondents (60.2%) has ISO140001 (Environmental Management System), 79 respondents (59.4%) has ISO45001 (Occupational Health and Safety Management System) and 68 respondents (51.1%) with ISO13485 (Quality Management System for Medical Device) available in their company. These results indicate that one medical device manufacturer has more than one accreditation available in their company for a continuous sustainability practices.

Table 2

*Descriptive Analysis*

Variables	Options	Frequency	Percentage (%)
Gender	Male	51	38.3
	Female	82	61.7
Highest education level	Diploma	15	11.3
	Bachelor	62	46.6
	Postgraduate	31	23.3
	Other	25	18.8
Years of Service	3-5 years	48	36.1
	6-10 years	45	33.8
	Above 11 years	40	30.1
Department	Production	53	39.9
	QA	27	20.3
	Engineering	19	14.2
	Processing	10	7.50
	R&D	24	18.1
Accreditation in the company	ISO9001	103	77.4
	ISO13485	68	51.1
	ISO14001	80	60.2
	ISO50001	19	14.3
	ISO45001	79	59.4

**Data Analysis**

Analysis of data was executed by using SmartPLS-4. PLS-SEM and bootstrapping analysis was conducted using the software. Two alternative models were analyzed in which the relationship between latent and observable variables is described in the measurement model whereas the second one is a structural model that considers how the latent variables are related to one another. Since the data was gathered from a single source, we first examined the possibility of Common Method Bias. Using Harman's one-factor approach (Hair et al., 2019), the variance obtained for that single factor is 42%. Meanwhile the first factor covers 18.5% of the total variance and no serious common method bias is present as the percentage of variance for one factor is always less than 50%.

**Assessment of Measurement Model**

Recent paper by Cheung et al. (2023) was followed and convergent validity was first assessed by looking at the outer loadings, average variance extracted (AVE) and composite reliability (CR). Cut off values for AVE and CR is at  $\geq 0.5$  and  $\geq 0.7$  respectively. Loadings are recommended to be more than 0.7 but in the case of AVE'S value is already higher than 0.5, loadings between 0.5 and 0.7 can be accepted. As shown in Table 3, all the AVE were higher

than 0.5 and the CR was higher than 0.7 with most of the outer loadings greater than 0.7. The results confirm that all of the constructs have convergent validity.

Table 3

*Result of Construct Validity and Reliability*

Constructs	Items	Loadings	Composite reliability	AVE
Employee Engagement (EE)			0.934	0.644
	EE1	0.794		
	EE2	0.776		
	EE3	0.763		
	EE4	0.785		
	EE5	0.814		
	EE6	0.833		
	EE7	0.83		
	EE8	0.817		
	EE9	0.806		
Gender Equality (GE)			0.878	0.609
	GE1	0.796		
	GE2	0.848		
	GE3	0.717		
	GE4	0.806		
	GE5	0.726		
Green Manufacturing (GM)			0.857	0.627
	GM1	0.798		
	GM2	0.791		
	GM3	0.723		
	GM4	0.806		
	GM5	0.838		
Human Resources Practices (HRP)			0.877	0.671
	HRPT1	0.809		
	HRPT2	0.858		
	HRPT3	0.817		
	HRPT4	0.856		
	HRPT5	0.751		
Job Security (JS)			0.821	0.552
	JS1	0.763		
	JS2	0.463		
	JS3	0.838		
	JS4	0.884		
	JS5	0.691		
			0.849	0.562

		OCB1	0.651		
		OCB2	0.674		
Organizational Behaviour (OCB)	Citizenship	OCB3	0.775		
		OCB4	0.773		
		OCB5	0.823		
		OCB6	0.788		
Perceived Support to Environment (POS)	Organizational			0.896	0.76
		POSTE1	0.88		
		POSTE2	0.88		
		POSTE3	0.89		
		POSTE4	0.837		
Safety Practices (SP)				0.932	0.776
		SP1	0.867		
		SP2	0.91		
		SP3	0.888		
		SP4	0.879		
		SP5	0.859		

HTMT ratios were used to evaluate the discriminant validity as suggested by Franke and Sarstedt (2019). Table 4 as shown below was developed for reporting based on the guidelines provided by Ab Hamid et al. (2017). A value of lower than 0.85 was recorded for all the HTMT ratios and thus it can be concluded that the measures used in the study are distinct.

Table 4  
Result of Discriminant Validity Testing (HTMT)

	EE	GE	GM	HRP	JS	OCB	POS	SP
EE								
GE	0.575							
GM	0.735	0.592						
HRP	0.590	0.606	0.614					
JS	0.754	0.484	0.755	0.707				
OCB	0.688	0.518	0.743	0.557	0.813			
POS	0.801	0.535	0.792	0.745	0.819	0.757		
SP	0.707	0.434	0.693	0.638	0.748	0.567	0.818	

### Assessment of Structural Model

Based on Table 5 below, the result of the current study indicated that gender equality ( $\beta=0.183$ ;  $t=3.048$ ,  $f^2=0.062$ ) has a small significant effect and positive relationship to employee engagement. Next, job security ( $\beta=0.242$ ;  $t=2.644$ ,  $f^2=0.075$ ) has a small significant effect and positive relationship to employee engagement. Moving on, perceived organizational support towards the environment ( $\beta=0.319$ ;  $t=2.648$ ,  $f^2=0.087$ ) has a large and positive relationship to employee engagement. Thus, it can be concluded that hypotheses 1, 3 and 5 are accepted. Also, the findings indicate that employee engagement as the mediator had a



significantly large positive effect on OCB ( $\beta = 0.626$ ;  $t=9.494$ ,  $f^2=0.644$ ). Thus, hypothesis 7 is also supported. However, green manufacturing ( $\beta = 0.146$ ;  $t = 1.403$ ,  $f^2=0.027$ ), human resources practices ( $\beta = -0.078$ ;  $t = 1.022$ ,  $f^2=0.008$ ), and safety practices ( $\beta = 0.149$ ;  $t = 1.583$ ,  $f^2=0.025$ ) had a non-significant effect on employee engagement. Thus, hypotheses 2, 4 and 6 are not supported. This suggests that green manufacturing, human resources practices and safety practices did not have a significant effect on employee engagement.

Table 5

*Hypotheses Testing Results*

Hypothesis	Relationship	Beta	Std Error	t-values	BCI LL	BCI UL	Decisions
<b>Main Model</b>							
H1	GE → EE	0.183	0.06	3.048	0.078	0.272	Significant
H2	HRP → EE	-0.078	0.077	1.022	-0.196	0.050	Non-significant
H3	JS → EE	0.242	0.092	2.644	0.065	0.369	Significant
H4	SP → EE	0.149	0.094	1.583	0.000	0.309	Non-significant
H5	POS → EE	0.319	0.121	2.648	0.119	0.507	Significant
H6	GM → EE	0.146	0.104	1.403	-0.012	0.325	Non-significant
H7	EE → OCB	0.626	0.066	9.494	0.495	0.717	Significant
<b>Mediating Effect of Employee Engagement</b>							
H8	GE→EE→ OCB	0.114	0.040	2.891	0.048	0.175	Significant
H9	HRP→EE→ OCB	-0.049	0.050	0.983	-0.132	0.030	Non-significant
H10	JS→EE→OCB	0.152	0.061	2.494	0.042	0.243	Significant
H11	SP→EE→OCB	0.093	0.059	1.595	-0.001	0.192	Non-significant
H12	POS→EE→ OCB	0.200	0.086	2.316	0.065	0.347	Significant
H13	GM→EE→ OCB	0.091	0.068	1.352	-0.008	0.209	Non-significant

The final analysis aimed to determine if employee engagement had a mediating effect. The bootstrapping indirect effect method proposed by Preacher and Hayes (2008) was used. The mediation effect of GE→EE→ OCB ( $\beta = 0.114$ ,  $t = 2.891$ ), JS→EE→OCB ( $\beta = 0.152$ ,  $t = 2.494$ ), and POS→EE→ OCB ( $\beta = 0.200$ ,  $t = 2.316$ ) were significant with the bias corrected confidence intervals not straddling a zero. These empirical findings show that employee engagement plays a completely mediating function to gender equality, perceived organizational support and job security. However, GM→EE→ OCB, HRP→EE→ OCB and SP→EE→OCB were not significant as the value of the t-value were less than 1.645.

**Discussion**

Organizational behaviour studies have been conducted to identify the methods and strategies for bolstering the organizational approaches that promote effective organizational functioning. The concept of SET which shows that providing employees with a clear explanation of the rules, data, and outcomes enhances employee performance and motivates them to act in a way that is productive (Liaquat & Mehmood, 2017). According to the social exchange hypothesis by Yin (2018), identifying measures to boost employee engagement will benefit both workers and employers in a reciprocal manner.

In relation to the theory, the study was carried out to understand the influence of organizational sustainability practices on the development of OCB with employee engagement being the mediator. Seven hypotheses were developed and significantly, three hypotheses have been supported, in conjunction with the SET theory. In addition to the

study's findings, there was evidence that gender equality leads to employee engagement, which in turn affects OCB. This observation is consistent with H1. Furthermore, this outcome is consistent with past research findings of Garg (2014) which indicated that both male and female employees appear to be comparably engaged. This shows that gender equality exists in the organization. Based on the findings of the analysis done by Onwuchekwa et al. (2019), the researchers concluded that a gender-sensitive organization nurtures an engaged set of workers, and so gender diversity influences organizational performance since engaged people work hard to ensure that their organizations function well.

Consistent with the study's results, job security has a positive relationship to employee engagement and OCB. This observation is consistent with H3. Job security is based on how each person interprets and perceives their work environment, which explains the attitudes and behaviour that workers adopt and how they affect organizational success (Ajala & Ojo, 2015). According to the study conducted by Ahmed et al. (2017), employee job security affects both performance and engagement, and employee engagement acts as a mediator in the link between job security and productivity. In addition, Yousef (2000) in his study has mentioned the significance of job security originates from the fact that it plays a crucial role in affecting productivity relating to the workplace. Thus, for employees to feel satisfied at work and to have the necessary mental stability to preserve their positions, job security is crucial. Managers may be certain that excellent work will be produced and that organizational goals will be met more quickly when employees are productive and in good mental health.

In line with the study's results, it can be seen that perceived organizational support towards the environment has a positive relationship to employee engagement and OCB. This observation is consistent with H5. Additionally, this outcome is in line with what was discovered in earlier research done by Silva (2021). She found a positive direct effect of perceived organizational support towards the environment with employee engagement. As a result of this relationship's confirmation, it is possible to say that an employee's engagement levels will increase in direct proportion to how strongly they believe their employer appreciates their contributions to sustainability. Thus, by respecting and recognizing employees' contributions to sustainability, organizations may raise and better utilize employee engagement levels. According to the findings of the study conducted by Sulistyawati and Sufriadi (2020), perceived organizational support and employee engagement have a significant influence on the performance of employees at the regional public hospital. The more the perceived organizational support, the greater the employee engagement, which directly influences career achievement and OCB in employees.

On the other hand, the results demonstrated that employee engagement has a large significant mediation effect on OCB. This result is in agreement with H7 in which the likelihood of a connection between OCB and employee engagement is high. As mentioned by Shrestha (2019), when employees are engaged, they freely feel responsibility towards the organization, internalize the organizational objectives, and desire to be a part of it. Following that, the person exhibits favourable attitudes towards the task and is prepared to give extra efforts for the assignment. As a result, impression engagement is founded on an organization's emotional attachment behaviour. This is also align with the study conducted by George and Joseph (2015) on the relationship between engagement and OCB with reference to employee's working in travel organizations in which it was concluded that employee engagement positively increases OCB, which implies that when employees are engaged, they are more inclined to go the additional mile.

On the contrary, the findings indicated that human resources practices had no significant effect on employee engagement. Thus, this result is in disagreement with H2. Also, this result is inconsistent with the Fayad and Easa (2020) which reviewed literature over 27 years and found that using an effective human resources management practices via training and developing innovative programmes to improve individual and collaborative abilities leads in increased employee engagement. Although the findings for human resources practices on employee engagement may differ from the theoretical framework's assumptions and the findings of various earlier studies (such as Johari et al., 2012; Fayad & Easa, 2020), among the logical reasons for this discovery is that employees do not have satisfaction in the work that they do. For both the measurement items under employee engagement and human resources practices, "I feel working environment is exciting to work in," and "My organization deploys various schemes to increase job satisfaction," respectively, nearly 38% of respondents chose the neutral response. This demonstrates that HR can enhance the working environment, which might raise job satisfaction and boost employee engagement and OCB. Similarly, H4 which was on the safety practices also did not have significant effect to employee engagement. This is in contrary to the study conducted by Onoh (2021) which state that majority of health care employees concurred that safety procedures have a positive impact on their ability to execute their jobs. Ability to execute job is clearly related to employee engagement because one of the measurement items given under employee engagement is "I have enough materials and information I need to do my job well." It is also found to be inconsistent with the study carried out by Adzivor et al. (2022) who found that safety practices by Occupational Health and Safety management have a positive effect on employee engagement. Based on the descriptive analysis, almost 60% of respondents have ISO45001(Occupational health and safety management systems) in place. Nevertheless, existence of system alone would not be able to foster employee engagement in employees and influence the OCB, implementation and continual training is necessary. Lastly the findings on green manufacturing also did not have a significant effect on employee engagement. Thus, this result is in disagreement with H6. Nevertheless, the findings on the relationship between green manufacturing and employee engagement are comparable with those of Chen et al. (2020). He also mentioned that employee participation has a moderating influence on the link between green practices and environmental performance. This issue is related to employee psychology because when employees see a work environment that encourages them to participate in problem-solving but is not imbued with a lean culture, their attitude towards work becomes passive. Thus, even if workers engage in green practices, their passive attitude may result in poor results and bad environmental performance. As a result, employee engagement here could act as a moderator in the link between green practices and OCB instead of acting as a mediator.

Regarding the mediation role of employee engagement, it did not significantly mediates the relationship between human resources practices, safety practices and green manufacturing in instilling OCB. Results are in disagreement with H9, H11 and H13. However, the findings are comparable with those of (Putra Fajar & Drahen, 2017) which mentioned human resources management practises at integrated organisations have been shown to have a substantial effect on their workers' attitudes towards OCB. However, no substantial evidence exists to support the discretionary behaviours of the designating inclination for other elements that might predict OCB created by employees. Similarly, according to Mansour & Tremblay, (2018), the findings of structural equations stated that the psychosocial safety atmosphere boosts involvement (intensity, devotion, and absorption). It doesn't, however,

directly affect organisational citizenship. However, the findings for H13 is contrary with the study conducted by Danirmala and Prajogo (2022) which concluded that employee engagement in sustainability and organisational citizenship behaviour are both indirectly impacted by green training. Thus, more research on green manufacturing should be conducted to understand the perception of employees towards achieving OCB.

### **Conclusion**

The current study has added contribution in the aspect of organizational sustainability practices which influences OCB with employee engagement mediates the whole equation. To accomplish so, data was collected from employees in health care companies and partial least square structural equation modelling using Smart PLS-4 was utilized to ensure all of the assumptions investigated in our research are correct. 13 hypotheses were tested, and six constructs came out with no significant effect to employee engagement and OCB. The variables which were not positively significant are human resources practices, safety practices and green manufacturing. Whereas the other three variables, namely gender equality, job security and perceived organizational support towards environment were significantly positive to the employee engagement and OCB. Thus, it is suggested that medical device manufacturers should take necessary steps for securing employees' engagement related matters so as to improve their performance level in the organization and bringing about the OCB in each employee.

The novelty of the study was shown by gender equality, job security, perceived organizational support towards the environment that showed positive influence on employee engagement towards OCB. Future studies are needed to identify the barriers and challenges of human resources practices, safety practices and green manufacturing on its influences on employee's OCB via employee engagement.

In a nutshell, organizations must take steps to increase employee engagement. Organizations must also determine the level to which their workers are engaged, identify the causes of disengagement, and take actions to eliminate such disadvantages to foster OCB in employees for continuous organizational sustainability.

### **Implication**

The findings of this study have been in line with the constructs mentioned in the discussions. Some theoretical applications of the research's findings can be suggested based on all these components. The combination of the six independent variables—gender equality, human resources practices, job security, safety practices, perceived organizational support towards the environment, and green manufacturing to the mediator—employee engagement and the dependent variable— OCB shows that influencing OCB must be founded on better organizational sustainability practices. This circumstance arises from the fact that the function of organizational sustainability practices in fostering employee engagement determines the strengthening of OCB. OCB cannot be established among employees without the employee engagement function. The findings of this article offer practitioners the practical guidelines for developing the most suitable and successful policies for increasing OCB via employee engagement.

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