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Assessing organizational commitment and organizational citizenship behavior in ensuring the smoothness of the supply chain for medical hospital needs towards a green hospital: Evidence from Indonesia

Zia'ul Fatwa Andini Yusuf[a*], Furtasan Ali Yusuf[a], Uli Wildan Nuryanto[a] and Basrowi[a]

[a]*Universitas Bina Bangsa, Indonesia*

A B S T R A C T

This research examined the relationships between Organizational Commitment, Organizational Citizenship Behavior (OCB), the Supply Chain, and Green Hospital practices in a healthcare setting. A cross-sectional study was conducted using self-reported data from healthcare employees. Structural equation modeling was employed to analyze the relationships and mediation effects. The study confirmed that Organizational Commitment positively impacts the Supply Chain and Green Hospital practices. Similarly, Organizational Citizenship Behavior significantly influences the Supply Chain and Green Hospital initiatives. The Supply Chain was found to have a positive impact on Green Hospital practices and served as a mediator in the relationships between Organizational Commitment and Green Hospital and Organizational Citizenship Behavior and Green Hospital. The research provides valuable insights for healthcare organizations seeking to enhance their sustainability efforts. Fostering Organizational Commitment and Organizational Citizenship Behavior among employees can contribute to more efficient supply chain operations and environmentally responsible practices. The study underscores the crucial role of supply chain management in translating commitment and proactive behaviors into tangible sustainability initiatives. The research is context-specific, and using self-reported data and a cross-sectional design may limit generalizability. Future studies should explore these relationships in diverse settings and consider longitudinal or mixed-method approaches.

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1. Introduction

The current global healthcare system faces various challenges, including environmental sustainability (AlJaberi et al., 2020). As a primary component of the healthcare system, hospitals play a crucial role in ensuring an adequate supply of medical and non-medical equipment to support patient care (Winkelmann et al., 2022). With the increasing awareness of environmental issues, the concept of a sustainable hospital, or "green hospital," is becoming more relevant (Lattanzio et al., 2022; Wood et al., 2016). In this context, organizational commitment and organizational citizenship behavior (OCB) by hospital staff play a significant role in maintaining the smoothness of the supply chain for medical and non-medical equipment in hospitals towards a green hospital. Organizational commitment refers to the extent to which individuals feel attached and dedicated to the organization where they work (Knotts & Houghton, 2021). Employees with high levels of organizational commitment tend to have greater motivation to achieve the organization's goals (Afsar et al., 2020). In hospitals, high organizational commitment can encourage employees to work with dedication to ensure the smooth flow of medical and non-medical equipment supply chains, reduce the risk of shortages, and enthusiastically support green hospital efforts (Duque-Uribe et al., 2019; Kapoor et al., 2021; Mahendradhata et al., 2021; Vlckova & Thakur-Weigold, 2020). OCB refers to voluntary actions taken by employees beyond their primary responsibilities that contribute positively to the organization (Grego-Planer, 2019). In hospital supply chains, OCB may include activities such as sharing ideas to improve supply chain efficiency, participating in medical equipment recycling programs, or assisting in sustainable medical waste management (Abdelsalam et al., 2021;

* Corresponding author
E-mail address basrowi@binabangsa.ac.id (Z. F. A. Yusuf)

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Ranjbari et al., 2022). The smoothness of the supply chain is a critical factor in ensuring that hospitals have an adequate and quality supply of medical and non-medical equipment (Abu-Haydar et al., 2021; Handayani et al., 2018). Furthermore, moving towards a green hospital requires hospitals to consider sustainable aspects, such as efficient energy use, environmentally friendly waste management, and selecting environmentally supportive products (Borges de Oliveira et al., 2021; Borges de Oliveira & de Oliveira, 2022; Koytcheva et al., 2021). Previous research on the supply chain of medical and non-medical supplies in hospitals has primarily focused on supply chain management and operational efficiency (Benzidia et al., 2019; A. Sharma et al., 2020; R. Sharma et al., 2022). However, there needs to be more specific research focusing on the relationship between organizational commitment and organizational citizenship behavior (OCB) of hospital employees in the context of the supply chain toward achieving a green hospital. This research will fill this knowledge gap by investigating how these psychological factors influence the smoothness of the supply chain in sustainable hospitals.

This research brings innovation by combining organizational commitment and OCB elements with healthcare supply chain issues and environmental sustainability within the hospital context. Examining employee contributions to green hospital goals is relatively new and essential in an era of ecological uncertainty. Focusing on employee behaviors that go beyond their primary responsibilities to support a sustainable and environmentally friendly supply chain will help understand how hospitals can contribute to global sustainability goals. This research has significant implications in several aspects. First, the research results will guide hospitals in improving the supply chain of medical and non-medical needs by leveraging organizational commitment and employee OCB. Second, the research will contribute to understanding green hospital practices by examining their impact on the supply chain and employee engagement. Third, the study will contribute to a deeper understanding of the relationship between organizational commitment, OCB, and sustainability, which has far-reaching implications beyond the hospital context.

This research aims to enhance the sustainability of hospitals, a crucial aspect of the healthcare system. In the context of climate change and increasing environmental awareness, it is essential to understand how hospitals can support sustainability efforts. Hospitals can contribute to a more sustainable supply chain by motivating employees through organizational commitment and OCB while reducing environmental impact. The specific objectives of this research are:

1. To analyze the relationship between the organizational commitment of hospital employees and the smoothness of the supply chain for medical and non-medical supplies in the context of a green hospital.
2. To investigate how OCB of employees contributes to the smoothness of the supply chain for medical and non-medical supplies (Y) towards a green hospital.
3. To understand the impact of organizational commitment and OCB on sustainability efforts in the hospital supply chain and the potential environmental benefits generated.

2. Literature Review and Hypothesis Development

Organizational commitment and supply chain

Srivastava and Dhar (2016) assert that organizational commitment, which encompasses the loyalty and dedication of employees to their workplace, plays a substantial role in ensuring the smooth functioning of the supply chain. According to Taneja et al. (2015), employees with high levels of commitment are more likely to align their goals with the organization's objectives, leading to increased efforts to maintain efficient supply chain operations. They are motivated to work cohesively, communicate effectively, and display a sense of responsibility in their supply chain-related tasks, which, in turn, enhances the overall efficiency and effectiveness of the supply chain. This strong commitment can reduce the risk of disruptions and delays in the supply chain, ensuring that medical and non-medical hospital needs are met promptly. In addition, Wichmann et al. (2015) argue that employees with high organizational commitment are more inclined to support and adapt to sustainable supply chain practices, further promoting the transition towards a green and environmentally conscious hospital, ultimately contributing to a more resilient and sustainable healthcare system. Furthermore, based on the notion of Hussain et al. (2018) is that organizational commitment can foster a positive corporate culture that values transparency, accountability, and cooperation, vital in the supply chain context. When deeply committed, employees are more likely to collaborate with colleagues, suppliers, and stakeholders in the supply chain network. This collaborative approach can help identify and address potential challenges or bottlenecks in the supply chain, ensuring a seamless flow of medical and non-medical resources. Additionally, the relationship between organizational commitment and supply chain effectiveness goes beyond just the operational aspects (Zhang et al., 2019). It also has a significant impact on employee retention and job satisfaction (Ahmad, 2018). Employees who feel a strong commitment to their organization and its goals are more likely to remain in their roles, reducing turnover and the associated costs of hiring and training new staff (Ahmed, 2019). The nexus between organizational commitment and a well-functioning supply chain is multi-faceted. It not only enhances the efficiency and sustainability of the supply chain but also contributes to a harmonious work environment, employee retention, and, ultimately, the ability of hospitals to provide high-quality healthcare services. Therefore, the hypothesis we propose is as follows:

H_1: *Organizational commitment impacts positively on supply chain.*

Organizational commitment and green hospital

According to Benkarim & Imbeau (2021), organizational commitment, reflecting employees' loyalty and devotion to their

workplace, is a foundational pillar in advancing the objectives of a green hospital. Employees with a high organizational commitment are more inclined to internalize and support environmentally friendly practices, making them catalysts for transitioning to a green hospital. Their dedication to the organization's sustainability goals often translates into active involvement in energy-efficient initiatives, waste reduction, and the responsible use of resources. Moreover, Chams & García-Blandón (2019) assess that a committed workforce is better equipped to drive the adoption of sustainable behaviors, both individually and collectively. These employees advocate for reducing the hospital's environmental footprint and can play an integral role in promoting eco-consciousness among colleagues and stakeholders. Consequently, the vital link between organizational commitment and the pursuit of a green hospital underscores the importance of fostering a committed workforce in healthcare settings for the organization's well-being and the broader global initiative toward a more sustainable and eco-responsible future.

Furthermore, Top et al. (2015) explain that organizational commitment fosters a sense of personal responsibility and accountability among employees, leading to increased compliance with green hospital policies and procedures. These individuals are more likely to actively engage in eco-friendly practices, such as proper waste disposal, efficient energy consumption, and sustainable procurement of goods and services. In addition to these operational aspects, organizational commitment positively influences the corporate culture within a healthcare facility (Baird et al., 2019). A strong commitment to green initiatives contributes to a work environment that values ecological awareness, sustainability, and collective efforts to reduce the hospital's environmental impact (Shaw et al., 2021). This supportive culture, in turn, empowers employees to take ownership of their roles in making the hospital more environmentally responsible. The collaboration between organizational commitment and the green hospital concept extends far beyond compliance with environmental regulations. It fosters a proactive, environmentally conscious, and collaborative workforce, vital for achieving and sustaining the goals of a green hospital (Carino et al., 2020). This connection exemplifies how a committed workforce can be a driving force in transforming healthcare institutions into eco-friendly and sustainable entities. In light of these considerations, we present the following hypotheses:

H_2: *Organizational commitment impacts positively on green hospital.*

OCB and supply chain

Asghar et al. (2022) explain that OCB, which encompasses voluntary and discretionary actions taken by employees OCB, which encompasses voluntary and discretionary actions taken by employees beyond their formal job roles, is crucial in optimizing the supply chain processes. Employees engaging in OCB within the healthcare supply chain context often contribute to improved operational efficiency. Their proactive involvement can include the following: (1) Sharing insights to enhance supply chain practices; (2) Collaborating effectively with suppliers and stakeholders; (3) Taking ownership of potential challenges or disruptions in the supply chain. Such behaviors not only expedite the flow of medical and non-medical supplies but also enhance the adaptability and responsiveness of the supply chain to unforeseen circumstances (Zhu et al., 2020). Moreover, Cho and Yoo (2021) argue that a workforce that actively participates in OCB is more likely to embrace sustainable practices and eco-conscious initiatives, aligning with a green hospital's broader objectives. In essence, OCB serves as a catalyst for fostering a more resilient and sustainable supply chain in healthcare settings, promoting the achievement of green hospital goals, and ultimately enhancing the quality of patient care. Based on the notion of Bolino et al. (2015) is that employees engaged in OCB often contribute to creating a supportive and collaborative work culture. Their willingness to go above and beyond their formal duties fosters a sense of teamwork and camaraderie, which is essential in the complex and interdependent supply chain environment. This collaborative ethos helps identify and address potential bottlenecks, ensuring the continuous and timely flow of critical supplies to meet patient needs (Ernst, 2020). The harmony between OCB and the healthcare supply chain is instrumental in maintaining a well-functioning system. Rantala (2018) assess that OCB contributes to operational effectiveness and fosters a culture of teamwork, adaptability, and responsiveness within the supply chain, all of which are vital in ensuring that medical and non-medical supplies are readily available for patient care. Moreover, the inclination of employees engaged in OCB towards sustainable and eco-conscious practices aligns with the overarching goals of green hospitals, making OCB an indispensable factor in the evolution towards more environmentally responsible healthcare systems. Taking these factors into account, we put forth the following hypotheses:

H_3: *OCB impacts positively on supply chain.*

OCB and green hospital

OCB, representing voluntary and discretionary actions of employees that transcend their formal job descriptions, catalyzes the transition towards green hospitals (Gurmani et al., 2021). Amin et al. (2021) assert that employees actively engaging in OCB often become champions of environmental sustainability within the hospital ecosystem. Their actions extend to energy conservation, responsible waste management, and advocating for eco-friendly procurement practices. These individuals act as role models and proponents of green initiatives, inspiring colleagues and stakeholders to embrace sustainable practices. According to Abdullahi et al. (2020), the cumulative effect of OCB contributes to developing a hospital culture that prioritizes ecological responsibility. It aligns with the overarching objectives of green hospitals, which aim to reduce their carbon footprint, minimize waste, and enhance energy efficiency. In essence, OCB acts as a driving force, fostering a collective commitment to sustainable practices, and it plays a pivotal role in advancing the vision of green hospitals, promoting a healthier and more environmentally responsible healthcare landscape.

Employees actively involved in OCB often exhibit higher engagement, job satisfaction, and retention. This commitment to environmental sustainability contributes to a positive work environment where employees feel a sense of purpose and pride in contributing to a greener future (Khaskheli et al., 2020). Such a work culture boosts overall job satisfaction and significantly reduces staff turnover, an essential cost-saving factor for healthcare institutions (Davidescu et al., 2020). The relationship between OCB and green hospitals is profound and multifaceted. It fuels the implementation of sustainable practices and creates an inspiring, eco-conscious, and resilient work environment. The collective efforts of employees engaged in OCB are instrumental in driving the healthcare sector towards a more sustainable and ecologically responsible future, ultimately enhancing the quality of patient care and the well-being of the broader community. Considering these factors, we propose the following hypotheses:

H_4: *OCB impacts positively on green hospital.*

Supply chain and green hospital

The supply chain serves as the circulatory system of a hospital and is responsible for the efficient flow of medical and non-medical resources (Benzidia et al., 2019). In the context of green hospitals, this logistical system gains a new dimension. It becomes the backbone of environmental responsibility, focusing on sourcing sustainable materials, optimizing energy consumption, and minimizing waste (Sridhar et al., 2021). The supply chain's role in the green hospital extends from the responsible procurement of eco-friendly products to proper waste disposal, aligning with the principles of a circular economy. This intersection is where healthcare institutions ensure the seamless delivery of patient care and contribute to global environmental goals (Kumar et al., 2021). A green hospital's supply chain is characterized by eco-conscious decisions, sustainable practices, and an unwavering commitment to reducing its ecological footprint (Bharwani & Mathews, 2023). According to Yu et al. (2021), integrating the supply chain and the green hospital concept enhances the resilience and adaptability of healthcare systems. It promotes a proactive approach to managing resources, ensuring that medical and non-medical supplies are readily available while minimizing disruptions. The supply chain in green hospitals embraces advanced technologies and processes to reduce inefficiencies and environmental impact (Ding, 2018). Sustainable procurement practices contribute to reducing greenhouse gas emissions, sustainable water usage, and ethical sourcing, aligning with the principles of responsible healthcare (Daú et al., 2019). This symbiotic relationship between the supply chain and green hospitals leads to enhanced operational efficiency and fosters a culture of ecological responsibility among hospital staff. The supply chain becomes a unifying force, channeling the collective commitment of healthcare institutions toward a greener, more sustainable future. In light of these considerations, we put forth the following hypotheses:

H_5: *Supply chain impact positively on green hospital*

Supply chain as mediator

The concept of supply chain as a mediator in the context of our research brings an essential layer of depth to our investigation into the relationships between organizational commitment, organizational citizenship behavior (OCB), and the achievement of green hospitals. It serves as a dynamic bridge that elucidates the intricate connections between the psychological aspects of employees and the tangible outcomes in the healthcare supply chain. As a mediator, the supply chain plays a central role in translating the commitment and OCB of employees into concrete actions and results. It channels their dedication and environmentally conscious behaviors into efficiently managing medical and non-medical supplies, sustainable procurement, and waste reduction. Moreover, it is a crucial touchpoint for implementing green hospital initiatives, encompassing energy efficiency and other eco-conscious practices. The supply chain's role as a mediator enhances the smooth operation of healthcare systems. It furthers the global sustainability agenda, making it a pivotal factor in the evolution towards a more environmentally responsible healthcare sector. Given these considerations, we posit the following hypotheses:

H_6: *Supply chain significantly mediates the relationship between organizational commitment and green hospital.*

H_7: *Supply chain significantly mediates the relationship between OCB and green hospital.*

3. Method

The research methodology for examining the relationships between organizational commitment, organizational citizenship behavior (OCB), the supply chain, and the concept of a green hospital is structured as follows:
Research design, sample, and respondents

This research adopts a quantitative research design with a survey-based approach to gather data from hospital employees (Basrowi & Utami, 2023). The survey includes questions that measure the level of organizational commitment, OCB, employees' perceptions of the supply chain, and various aspects of sustainability relevant to the green hospital concept (Marwanto et al., 2020). The target population for respondents in this study includes hospital employees from various departments within hospitals in Banten, Indonesia (Soenyono & Basrowi, 2020). This population encompasses individuals in management, supply chain management, healthcare delivery, and finance roles within these healthcare institutions (Suwarno et al., 2020). A random sample of 249 respondents was selected from this diverse population to ensure data representativeness and minimize selection bias (Basrowi & Maunnah, 2019). This approach allows for a more comprehensive and balanced understanding of the relationships between Organizational Commitment, Organizational Citizenship Behavior, the Supply Chain, and Green Hospital practices within the specific healthcare context of Banten, Indonesia (Basrowi & Utami, 2020).

Variable measurements

The main variables to be measured would include:

- Organizational Commitment: Using validated and reliable scales to measure employees' commitment levels to the hospital (Benkarim & Imbeau, 2021; Hussain et al., 2018; Wichmann et al., 2015; Zhang et al., 2019).
- Organizational Citizenship Behavior (OCB): Employing instruments that assess employees' OCB levels, including voluntary actions that support green hospital initiatives (Asghar et al., 2022; Bolino et al., 2015; Ernst, 2020).
- Supply Chain: Using instruments to evaluate employees' perceptions of the hospital's supply chain, including operational and sustainability aspects (Benzidia et al., 2019; Bharwani & Mathews, 2023; Kumar et al., 2021; Sridhar et al., 2021).
- Green Hospital: Measuring the degree of a hospital's success in implementing sustainable practices (Carino et al., 2020; Khaskheli et al., 2020).

Data analysis and research ethics

Collected data analyzed using statistical techniques, namely mediation regression, to test whether the supply chain acts as a mediator between organizational commitment and the success of a green hospital and between OCB and the success of a green hospital (Mustofa et al., 2023). Ethical research principles will be strictly followed throughout the research, including obtaining ethical approvals from relevant authorities and safeguarding respondents' data (Pollock, 2012). The research findings interpreted to identify the extent to which the supply chain mediates the relationship between organizational commitment, OCB, and the success of a green hospital (Suseno & Basrowi, 2023). These findings will provide insights into supporting hospitals' sustainability efforts and contributions to green hospital practices.

Table 1
Instrument measurement

No	Variable	Indicator	Source
1	Organizational Commitment	Job Satisfaction: • OC1= I am satisfied with my job in this organization. • OC2=I find contentment in the work environment and tasks I perform. Loyalty: • OC3=I feel loyal to this organization and intend to continue working here long-term. • OC4=I will remain faithful to this organization under any circumstances. Identification with Organizational Values: • OC5=I believe that the values of this organization reflect my values. • OC6=I identify myself with the goals and culture of this organization. Satisfaction with Leadership: • OC7=I am satisfied with how leadership in this organization manages and leads the team. • OC8=I have confidence in the vision and guidance of leadership. Intent to Stay: • OC9=I intend to continue working in this organization for the long haul. • OC10=I do not have plans to leave this organization shortly. Extra Effort: • OC11=I am willing to exert extra effort to help the organization achieve its goals. • OC12=I am committed to delivering my best in my job.	(Benkarim & Imbeau, 2021; Hussain et al., 2018; Wichmann et al., 2015; Zhang et al., 2019)
2	OCB	Team Collaboration: • OCB1: I often collaborate with team members to accomplish tasks together. • OCB2: I am willing to provide assistance to colleagues in completing their work. Willingness to Help: • OCB3: I feel compelled to help coworkers when they encounter difficulties. • OCB4: I frequently dedicate extra time and effort to aid others in their tasks. Participation in Extra Projects: • OCB5: I frequently participate in additional projects beyond my regular duties. • OCB6: I am motivated to engage in supplementary initiatives that support the organization. Contributing Suggestions for Improvement: • OCB7: I do not hesitate to provide suggestions for enhancing processes and practices within the organization. • OCB8: I am actively involved in offering ideas that can bring improvement to the organization. Adherence to Rules and Ethics: • OCB9: I consistently uphold rules and ethical standards in performing my work. • OCB10: I ensure that my actions always align with the organization's values. Support for Sustainable Initiatives: • OCB11: I actively support the organization's initiatives in implementing sustainable practices, such as recycling and energy efficiency. • OCB12: I contribute to the organization's efforts to become more environmentally friendly.	(Asghar et al., 2022; Bolino et al., 2015; Ernst, 2020)

Table 1
Instrument measurement (Continued)

No	Variable	Indicator	Source
3	Supply chain	Operational Efficiency: • SC1: The organization's supply chain processes run smoothly and efficiently. • SC2: We have a logistics system that can optimize product deliveries and provisioning. Sustainability: • SC3: We actively adopt sustainable practices within the supply chain. • SC4: We prioritize waste reduction and energy efficiency in the supply chain. Supplier Satisfaction: • SC5: Our suppliers are satisfied with their working relationship with the organization. • SC6: We have strong partnerships with our suppliers. Accurate Demand Forecasting: • SC7: We can accurately predict demand for products and services. • SC8: Our demand modeling assists in efficient inventory management. Supply Chain Transparency: • SC9: We maintain high transparency throughout the supply chain, from suppliers to customers. • SC10: Shared information within our supply chain helps optimize workflow. Quick Response to Disruptions: • SC11: We can respond rapidly to disruptions in the supply chain. • SC12: Our systems are designed to address sudden changes in supply or demand.	(Benzidia et al., 2019; Bharwani & Mathews, 2023; Kumar et al., 2021; Sridhar et al., 2021)
4	Green Hospital	Energy Efficiency: • GH1: The hospital employs energy-efficient lighting, heating, and cooling systems to reduce energy consumption. • GH2: We have implemented renewable energy sources, such as solar panels, to power our hospital. Waste Reduction: • GH3: We have a comprehensive recycling program to minimize waste, including paper, plastics, and medical waste. • GH4: Our waste management system ensures responsible disposal of medical waste to protect the environment. Sustainable Procurement: • GH5: We prioritize procuring eco-friendly medical equipment and supplies, choosing products with lower environmental impacts. • GH6: Our hospital sources cleaning supplies that meet green standards and have minimal environmental impact. Green Building Design: • GH7: Our hospital's architectural design incorporates natural lighting and ventilation to reduce the need for artificial lighting and heating. • GH8: We use energy-efficient building materials and insulation to improve overall building efficiency. Water Conservation: • GH9: Low-flow fixtures are installed throughout our hospital to conserve water without compromising patient comfort. • GH10: We have implemented efficient irrigation systems for our landscaping to reduce water consumption. Healthcare Practices: • GH11: We use electronic health records to reduce paper usage and minimize the environmental impact of record-keeping. • GH12: Our telemedicine services help patients access healthcare remotely, reducing the need for travel and its associated emissions. Community Engagement: • GH13: Our hospital actively engages with the community to educate residents about the importance of environmental sustainability and health.	(Carino et al., 2020; Khaskheli et al., 2020)

4. Results

Validity and reliability

Table 1 presents a comprehensive analysis of several constructs in the study, including Organizational Commitment, Organizational Citizenship Behavior (OCB), Supply Chain, and Green Hospital. Each construct is evaluated regarding outer loading, Cronbach's Alpha, rho_A, Composite Reliability (CR), and Average Variance Extracted (AVE). For Organizational Commitment, it is evident that all items (OC1 through OC12) demonstrate high outer loadings, reflecting their strong association with the construct. The Cronbach's Alpha of 0.978, rho_A of 0.983, CR of 0.980, and AVE of 0.805 signify excellent reliability and convergent validity. It suggests that the items consistently measure Organizational Commitment.

Similarly, for Organizational Citizenship Behavior (OCB), most items (OCB1 through OCB12) exhibit substantial outer loadings, indicating their significant relationship with the OCB construct. Cronbach's Alpha of 0.985, rho_A of 0.985, CR of 0.986, and AVE of 0.858 reflect outstanding reliability and convergent validity. It underscores the consistency of the items in measuring OCB. Turning to the Supply Chain, most items (SC1 through SC12) display strong outer loadings, implying their substantial connection to the Supply Chain construct. The reliability measures, including Cronbach's Alpha of 0.972, rho_A

of 0.974, CR of 0.975, and AVE of 0.767, highlight exceptional reliability and convergent validity. These outcomes indicate the consistency in measuring the Supply Chain. In the Green Hospital, all items (GH1 through GH13) present notable outer loadings. The reliability measures, including Cronbach's Alpha of 0.964, rho_A of 0.967, CR of 0.968, and AVE of 0.703, demonstrate strong reliability and convergent validity, affirming the consistency in measuring Green Hospital. In summary, the data analysis reveals that the constructs in the study exhibit excellent reliability and convergent validity, and their associated items consistently measure the respective constructs. These findings provide a solid foundation for the validity of the constructs in the research study.

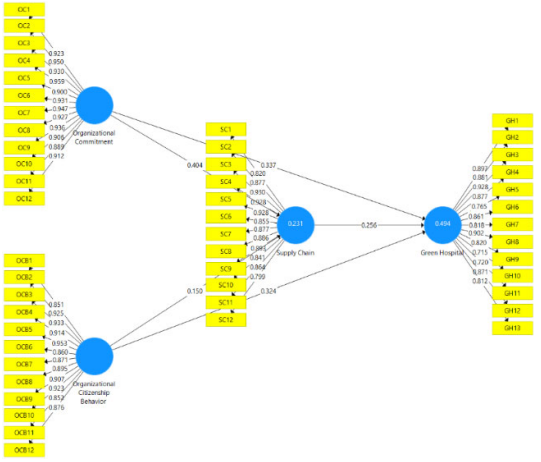

Fig. 1. The results of the PLS

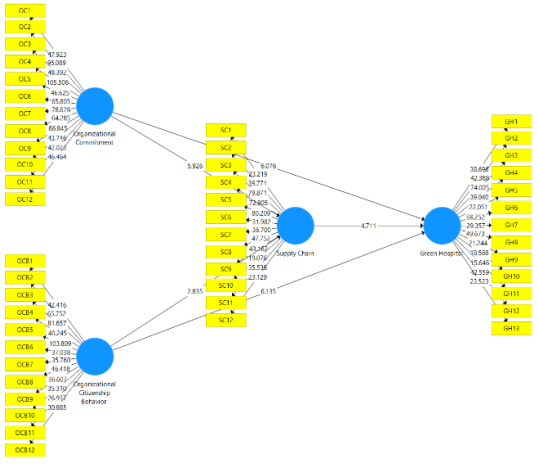

Fig. 2. The results of bootstrapping

Hypothesis testing

The results of the hypothesis testing in this study have provided valuable insights into the relationships between the key constructs, including Organizational Commitment (OC), Organizational Citizenship Behavior (OCB), Supply Chain (SC), and Green Hospital (GH). The findings reveal strong and statistically significant positive relationships for all hypotheses tested. H1, which examines the relationship between Organizational Commitment and the Supply Chain, demonstrates a path coefficient of 0.404, a T-statistic of 5.926, and a p-value of 0.000, indicating a significant positive association between these constructs. Similarly, H2, focusing on the link between Organizational Commitment and Green Hospital, shows a path coefficient of 0.337, a T-statistic of 6.076, and a p-value of 0.000, confirming a significant positive relationship. H3, exploring the connection between Organizational Citizenship Behavior and the Supply Chain, reveals a path coefficient of 0.150, a T-statistic of 2.835, and a p-value of 0.005, indicating a statistically significant positive association. H4, which investigates the relationship between Organizational Citizenship Behavior and Green Hospital, exhibits a path coefficient of 0.324, a T-statistic of 6.135, and a p-value of 0.000, confirming a significant positive relationship. Finally, H5, which examines the association between the Supply Chain and Green Hospital, shows a path coefficient of 0.256, a T-statistic of 4.711, and a p-value of 0.000, signifying a significant positive relationship between these constructs. All hypotheses tested in this study are accepted, underscoring the significant and positive relationships between Organizational Commitment, Organizational Citizenship Behavior, Supply Chain, and Green Hospital as evidenced by the path coefficients and their associated statistical significance. These findings provide a strong foundation for understanding the interplay between these constructs in the context of research.

Table 2
Direct relationship

Hypothesis	Construct*)	Original Sample	STDEV	T Statistics	P Values	Result
H1	OC → SC	0.404	0.068	5.926	0.000	Accepted
H2	OC→ GH	0.337	0.056	6.076	0.000	Accepted
H3	OCB → SC	0.150	0.053	2.835	0.005	Accepted
H4	OCB → GH	0.324	0.053	6.135	0.000	Accepted
H5	SC → GH	0.256	0.054	4.711	0.000	Accepted

*) OC=Organizational Commitment; OCB=Organizational Citizenship Behavior; SC=Supply Chain; GH=Green Hospital

The data presented in this study includes the results of two significant hypotheses, H6 and H7, which examine the mediating relationships within your research model. In these hypotheses, Organizational Commitment (OC) and Organizational Citizenship Behavior (OCB) are considered independent variables, the Supply Chain (SC) is the mediating variable, and Green Hospital (GH) is the dependent variable.

Hypothesis 6 (H6): Within this hypothesis, the path coefficient of 0.103 signifies the strength of the relationship between Organizational Commitment and Green Hospital, with the Supply Chain acting as a mediator. The relatively low standard

deviation (STDEV) of 0.029 suggests data consistency. Notably, the T-statistic, standing at 3.578, indicates the substantial statistical significance of the mediating role of the Supply Chain. The p-value (0.000) is well below the widely accepted significance level of 0.05. Therefore, this hypothesis is accepted, underlining the notable and statistically significant mediating function of the Supply Chain in explaining the relationship between Organizational Commitment and Green Hospital.

Hypothesis 7 (H7): In this hypothesis, the path coefficient of 0.038 represents the strength of the connection between Organizational Citizenship Behavior and Green Hospital, with the Supply Chain as the intermediary variable. The relatively low standard deviation (STDEV) of 0.017 indicates data consistency. The T-statistic, at 2.239, reveals statistical significance, and the p-value (0.026) falls below the widely accepted significance level of 0.05. As a result, this hypothesis is accepted, emphasizing the meaningful and statistically significant mediating role of the Supply Chain in explaining how Organizational Citizenship Behavior influences Green Hospital.

In summary, the results of H6 and H7 provide compelling evidence that the Supply Chain plays a pivotal mediating role in elucidating the linkages between Organizational Commitment and Organizational Citizenship Behavior with Green Hospital. These findings contribute to a deeper understanding of the complex relationships within your research framework, underscoring the critical role of the Supply Chain as a mediator in the context of your study (see Table 3).

Table 3

Indirect relationship

Hypothesis	Construct*)	Original Sample	STDEV	T Statistics	P Values	Result
H6	OC -> SC -> GH	0.103	0.029	3.578	0.000	Accepted
H7	OCB -> SC -> GH	0.038	0.017	2.239	0.026	Accepted

*) OC=Organizational Commitment; OCB=Organizational Citizenship Behavior; SC=Supply Chain; GH=Green Hospital

5. Discussion

The acceptance of H1 in this study reveals a critical and positive relationship between Organizational Commitment and the Supply Chain. This finding underscores the significant role that Organizational Commitment plays in enhancing and influencing the efficiency and effectiveness of the Supply Chain within the context of an organization. Organizational Commitment is a concept that reflects the dedication and loyalty of employees toward their organization (Srivastava & Dhar, 2016). The results of this research affirm that when employees exhibit a strong commitment to their workplace, it substantially impacts the Supply Chain. Such Commitment often translates into dedicated efforts to ensure the seamless functioning of the Supply Chain, which is pivotal for the organization's overall operations. This positive influence of Organizational Commitment on the Supply Chain is of great practical importance. Similar with Hussain et al. (2018) findings, that a committed workforce is more likely to actively engage in activities that improve the functioning of the Supply Chain, such as optimizing processes, ensuring timely deliveries, and maintaining quality standards. Such efforts contribute to the organization's operational efficiency and its competitive edge in the market. In conclusion, the acceptance of H1 underscores the pivotal role of Organizational Commitment in positively shaping the Supply Chain. This finding emphasizes the significance of nurturing and fostering a committed workforce to enhance the efficiency and effectiveness of an organization's Supply Chain, which, in turn, can lead to improved overall performance and competitiveness.

The acceptance of H2 in this study reveals a substantial and positive connection between Organizational Commitment and the establishment of a Green Hospital. This finding underscores the significant role that Organizational Commitment plays in fostering and influencing the development of environmentally sustainable practices within a hospital setting. Organizational Commitment is a construct that signifies employees' dedication and loyalty to their organization. The results of this research affirm that when employees display a high level of Commitment to their workplace, it has a profound, positive impact on the journey toward a Green Hospital. This Commitment often translates into a collective dedication to engage in and support environmentally friendly initiatives actively. The practical implications of this finding are noteworthy. A committed workforce is more likely to contribute to implementing "green" practices within a hospital, such as energy conservation, waste reduction, and adopting eco-friendly policies. Employees committed to their organization become active sustainability champions, aligning their efforts with the hospital's environmental objectives. The acceptance of H2 underscores the pivotal role of Organizational Commitment in positively influencing the transformation of a hospital into a Green Hospital. This finding carries significant practical implications, emphasizing the importance of fostering a committed workforce to promote environmentally sustainable practices within healthcare organizations. It also underscores the alignment between employee commitment and the broader organizational goal of environmental sustainability (Baird et al., 2019; Shaw et al., 2021).

The acceptance of H3 in this study carries essential implications, revealing a positive and significant impact of Organizational Citizenship Behavior (OCB) on the Supply Chain. This finding highlights OCB's valuable role in enhancing the efficiency and effectiveness of the Supply Chain within an organizational context. Organizational Citizenship Behavior refers to voluntary actions by employees that go beyond their regular job responsibilities. The results of this research confirm that OCB positively influences the Supply Chain, indicating that employees who engage in these proactive behaviors significantly contribute to the functionality of the Supply Chain. Practically, this finding suggests that employees who exhibit OCB are more likely to take actions that improve the Supply Chain's performance. These actions include sharing innovative ideas for process improvement, collaborating effectively with supply chain partners, or proactively addressing issues to prevent disruptions (Cho & Yoo, 2021; Rantala, 2018). The cumulative impact of OCB on the Supply Chain's operations can be

substantial, leading to increased efficiency and responsiveness. In summary, accepting H3 underscores the significance of Organizational Citizenship Behavior in positively affecting the Supply Chain. This finding has practical implications for organizations, emphasizing the importance of recognizing and encouraging OCB to enhance the functionality and effectiveness of the Supply Chain. It also highlights the role of employees as active contributors to the overall efficiency of the supply chain.

The acceptance of H4 in this study holds significant implications, demonstrating a positive and meaningful impact of Organizational Citizenship Behavior (OCB) on developing and promoting Green Hospital practices. This finding emphasizes OCB's valuable role in fostering environmentally sustainable initiatives within a hospital setting. Organizational Citizenship Behavior encompasses voluntary actions by employees that go beyond their prescribed job roles. The results of this research affirm that OCB positively influences the journey toward a Green Hospital, suggesting that employees who actively engage in these proactive behaviors significantly contribute to the hospital's sustainable and eco-friendly practices. From a practical standpoint, this finding highlights the essential role of employees in shaping a Green Hospital. Employees who exhibit OCB are more inclined to participate in activities that reduce the hospital's environmental footprint, promote energy efficiency, and support eco-friendly policies. Their collective efforts align with the hospital's broader goals of ecological sustainability and contribute to creating a green and responsible healthcare environment (Abdullahi et al., 2020; Khaskheli et al., 2020). The acceptance of H4 underscores the pivotal role of Organizational Citizenship Behavior in positively impacting the development and implementation of Green Hospital initiatives. This finding has practical implications for healthcare organizations, emphasizing the importance of recognizing, encouraging, and leveraging OCB to advance sustainable and environmentally responsible practices within the healthcare industry. It also underscores the active role of employees in driving the hospital's commitment to environmental sustainability.

The acceptance of H5 in this study carries significant implications, highlighting the positive and notable impact of the Supply Chain on developing and promoting Green Hospital practices. This finding underscores the crucial role that an efficiently managed and responsive Supply Chain plays in advancing environmentally sustainable initiatives within a hospital setting. The Supply Chain, often a complex network of processes and stakeholders, encompasses the procurement, production, and distribution of healthcare resources and services (Benzidia et al., 2019; Sridhar et al., 2021). This research confirms that the Supply Chain significantly influences the journey toward a Green Hospital, suggesting that a well-structured and effectively managed Supply Chain contributes to the hospital's sustainable and eco-friendly practices. From a practical perspective, this finding underscores the importance of a well-functioning Supply Chain in achieving Green Hospital objectives. A responsive Supply Chain can facilitate the sourcing of environmentally friendly products, ensure the efficient distribution of resources, and enable effective waste management practices. The cumulative impact of an optimized Supply Chain on the hospital's environmental sustainability efforts can be substantial. In summary, the acceptance of H5 emphasizes the pivotal role of the Supply Chain in positively impacting the development and promotion of Green Hospital practices. This finding has practical implications for healthcare organizations, emphasizing the importance of investing in and optimizing their Supply Chain to advance sustainable and environmentally responsible practices within the healthcare sector. It underscores the Supply Chain's active role in facilitating the hospital's commitment to environmental sustainability.

The acceptance of H6 and H7 in this study carries profound implications, indicating that the Supply Chain significantly and meaningfully mediates the relationships between Organizational Commitment (OC) and Organizational Citizenship Behavior (OCB) with the development and promotion of Green Hospital practices. These findings underline the pivotal and intricate role of the Supply Chain as a mediator in fostering environmentally sustainable initiatives within a hospital setting. The acceptance of H6 reveals that the Supply Chain serves as a substantial mediator in explaining how Organizational Commitment positively influences the development of a Green Hospital. A committed workforce, as seen in Organizational Commitment, actively engages in actions that enhance the Supply Chain's efficiency and effectiveness. This optimized Supply Chain, in turn, plays a central role in translating this efficiency into promoting Green Hospital practices, such as energy conservation, waste reduction, and adopting eco-friendly policies.

Similarly, the acceptance of H7 underscores the influential mediating role of the Supply Chain in explaining how Organizational Citizenship Behavior (OCB) positively impacts the development of a Green Hospital. Employees exhibiting OCB engage in voluntary actions beyond their regular job roles, which can significantly contribute to the Supply Chain's functionality. This well-functioning Supply Chain then plays a crucial role in translating these proactive efforts into sustainable and environmentally responsible initiatives within the hospital. In practical terms, these findings indicate the importance of an efficient Supply Chain in advancing Green Hospital practices. An optimized Supply Chain not only ensures the smooth flow of resources but also serves as a bridge, aligning employees' commitment and proactive behaviors with the broader goal of environmental sustainability.

In conclusion, the acceptance of H6 and H7 underscores the mediating role of the Supply Chain in the relationship between Organizational Commitment and Organizational Citizenship Behavior with Green Hospital practices. These findings have significant practical implications for healthcare organizations, emphasizing the pivotal role of the Supply Chain in translating commitment and proactive behavior into tangible environmental sustainability initiatives. It also highlights the active and central part of the Supply Chain in facilitating the hospital's journey toward becoming environmentally responsible and sustainable.

6. Conclusion

This research has shed light on the intricate relationships between Organizational Commitment, Organizational Citizenship Behavior (OCB), the Supply Chain, and the development of Green Hospital practices. The findings underscore these constructs' pivotal roles in the healthcare context, with significant implications for both theory and practice. Firstly, the study confirmed that Organizational Commitment positively impacts both the Supply Chain and the development of Green Hospital initiatives. Employees who exhibit a strong commitment to their organization actively contribute to the efficiency of the Supply Chain and become catalysts for environmentally sustainable practices within the hospital. These results enrich the Organizational Commitment theory by highlighting its broader impacts on healthcare operations and environmental sustainability. Secondly, the research validated that Organizational Citizenship Behavior (OCB) significantly influences the Supply Chain and the development of Green Hospital practices. Employees who engage in OCB behaviors are crucial in enhancing Supply Chain efficiency and promoting eco-friendly initiatives within the hospital. These findings emphasize the importance of recognizing and encouraging OCB in healthcare organizations. Moreover, the study revealed that the Supply Chain positively impacts the development of Green Hospital practices. An efficiently managed Supply Chain ensures the smooth flow of resources and serves as a mediator, translating employee commitment and proactive behaviors into tangible environmental sustainability initiatives. It underscores the critical role of the Supply Chain in promoting Green Hospital practices. Lastly, the research demonstrated that the Supply Chain is a significant mediator in the relationship between Organizational Commitment and OCB with Green Hospital practices. It implies that an optimized Supply Chain plays a central role in explaining how commitment and proactive behaviors translate into environmental sustainability within a hospital.

The findings of this research have notable theoretical implications. Firstly, this study expands the Organizational Commitment theory by demonstrating its influence on supply chain dynamics and promoting environmentally sustainable practices. Traditionally, Organizational Commitment theory focused on employee loyalty and emotional attachment to the organization, but this research underscores its broader impact on various organizational functions. Secondly, the study amplifies Organizational Citizenship Behavior theory by showing the substantial influence of proactive behaviors on supply chain operations and Green Hospital practices. It challenges the conventional view of OCB as purely altruistic and suggests a more tangible impact on organizational processes. Moreover, the research highlights the mediating role of the Supply Chain in connecting employee commitment and Organizational Citizenship Behavior with Green Hospital practices. It underscores the intricate dynamics of supply chain management as a bridge between employee behaviors and organizational outcomes. These findings encourage further exploration of supply chain theory's mediating role in different contexts and its influence on sustainability practices.

The practical implications of these findings are substantial. Healthcare organizations should recognize the importance of fostering Organizational Commitment and OCB among their employees. Additionally, investing in an efficient Supply Chain is crucial, not only for operational excellence but also for promoting environmentally responsible practices. These findings offer a roadmap for healthcare institutions seeking to develop sustainable and ecologically conscious hospitals, ultimately benefiting both the environment and the quality of patient care.

Implications

While this study provides valuable insights into the relationships between Organizational Commitment, Organizational Citizenship Behavior, the Supply Chain, and Green Hospital practices, it has limitations. First, the contextual specificity of the research setting may limit the generalizability of the findings to other healthcare systems or industries. Future research should replicate these relationships in different contexts to enhance their applicability. Second, a cross-sectional design provides a static snapshot of these relationships at a single time. Longitudinal studies would offer a more dynamic understanding of how these constructs evolve and their lasting impact on Green Hospital initiatives. Another limitation is the reliance on self-reported data, which may introduce response bias. Future research should consider incorporating objective measures and observational data to enhance the credibility of the findings. Additionally, while this study confirms the mediation role of the Supply Chain in certain relationships, the extent to which supply chain mediation operates may vary across different organizational settings. Future research should investigate the generalizability of supply chain mediation in diverse contexts.

Limitations

In light of these limitations, several recommendations emerge. First, researchers should aim to replicate and validate these relationships in various healthcare and organizational contexts to establish their robustness and relevance. Second, adopting a longitudinal research approach can provide deeper insights into the dynamics of these relationships and their sustainability over time. A mixed-methods approach that combines quantitative data with qualitative insights and observational data can offer a more comprehensive understanding of the factors influencing Green Hospital practices. Furthermore, intervention studies focusing on fostering Organizational Commitment and Organizational Citizenship Behavior and assessing their impact on Green Hospital initiatives can provide practical guidance for healthcare organizations. Lastly, healthcare organizations should prioritize optimizing their supply chain management, recognizing its pivotal role in translating employee commitment and proactive behaviors into sustainable practices. Strategies to enhance supply chain efficiency and environmental

responsibility should be explored and implemented. In summary, this study's limitations suggest avenues for future research improvement. At the same time, the recommendations guide researchers and healthcare organizations striving to advance environmentally sustainable practices within the healthcare sector.

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