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Optimizing Sales Productivity Through Ergonomic Office Design in Beijing, China

Sun Jingwei[1], Lorenzo C. Lorenzo[2]

[1,2]Graduate School, Emilio Aguinaldo College, Manila, Philippines

Abstract

This study determined the relationship between ergonomic office design and sales productivity within selected network companies in Beijing, China. Using a quantitative correlational approach, data were gathered from 150 employees through a structured questionnaire. The study assessed ergonomic maintenance aspects—accessibility, flexibility, capacity, layout flexibility, and work-in-process flow—and their correlation with sales productivity metrics such as efficiency, effectiveness, and performance. While ergonomic features were generally rated as adequately maintained, the results revealed no statistically significant correlation between ergonomic office design and sales productivity. The findings suggest that other organizational and contextual factors may play a more substantial role in influencing sales outcomes.

Keywords: ergonomic design, sales productivity, office layout, workplace efficiency, Beijing

Introduction

Office ergonomics is a framework for designing and organizing work environments to optimize health, safety, comfort, and effectiveness. This presents a comprehensive survey of recent developments in the field, with a specific emphasis on elucidating the impact of psychosocial factors on physical-environmental attributes. The research conducted by Brand (2008) delves into various facets encompassing seating arrangements, furniture design, information technologies, lighting systems, thermal comfort, and ambient conditions.

According to Eraslan et al. (2020) ergonomics is a field that studies the relationship between the work environment and human interaction, aiming to optimize efficiency, productivity, and well-being. It addresses issues like noise, vibration, thermal comfort, illumination, radiation, and pressure in office equipment design. Factors like lighting, noise levels, thermal environment, software usability, and work organization significantly impact the environment. Insufficient ergonomic conditions can lead to health issues like tendonitis, carpal tunnel syndrome, and spinal diseases. To achieve optimal ergonomics, factors like absence of reflections, suitable lighting, seamless collaboration, and easy accessibility are crucial.

The study conducted by Workineh and Yamaura (2016) introduces a novel computer workstation design that seeks to enhance the comfort of individuals engaged in prolonged computer usage. The findings of the study indicate that the newly designed workstation exhibits enhanced comfortability, as it effectively provides balanced support to the user's body. This feature enables individuals to engage in various positions, facilitating stretching and relaxation without experiencing any discernible discomfort. The primary objective of this study was to enhance both comfort and productivity by implementing strategies

to prevent repetitive strain injuries (RSI) and incorporating anthropometric design principles across diverse domains.

The impact of office layouts on workplace culture, job satisfaction, and performance has been widely acknowledged in the research literature. Numerous studies have demonstrated that the physical arrangement of office spaces can significantly shape employees' experiences and outcomes within the workplace. By examining the relationship between office layouts and various organizational factors, researchers have shed light on the intricate interplay between the physical environment and employee well-being. One key aspect that office layouts can influence is workplace culture. It is widely recognized that the prevailing culture within an organization has a profound influence on the attitudes and behaviors of its employees. Consequently, organizational culture assumes a critical role in shaping the overall physical environment of the workplace. (Zerella et al., 2017)

The incorporation of ergonomic design principles is of utmost importance in the process of product development, as it necessitates a thorough understanding and consideration of the capabilities and limitations of the end users. The stability and weight of a helmet design were enhanced by incorporating head shape considerations. Additionally, a methodical evaluation protocol was introduced to assess the modifications made to ultrasound transducers. (Hashim & Dawal, 2012)

The planning of facility layout is a critical strategic decision that has a substantial impact on the overall performance of a system, particularly in terms of cost and time. The selection of the optimal layout design is a critical process that involves evaluating a multitude of alternatives. This rigorous assessment aims to identify the most suitable configuration that can effectively enhance the functionality and efficiency of facilities, ultimately resulting in heightened productivity levels. The Analytic Hierarchy Process (AHP) is predicated upon the assumption of independent criteria, which affords decision makers the ability to effectively organize and structure the problem at hand within a hierarchical framework. The evaluation of alternative facilities, also known as FLPs, has been conducted in order to assess their various attributes including accessibility, flexibility, maintenance, capacity, productivity, layout flexibility, and work-in-process flow. (Al-Hawari et al., 2014)

Sales productivity, a concept dissected through multifarious dimensions, continues to captivate researchers. The advent of the digital age and shifting economic landscapes have beckoned a deeper exploration into this field, especially in understanding its intricate relations with technological, environmental, and human-centric factors. This review gathers insights from several recent studies to shed light on the evolving dynamics of sales productivity.

The role of digital transformations in the realm of sales has been a considerable focus in recent research. Alavi and Habel (2021) unravel the human aspects behind digital transitions in sales, underlining the pivotal role of the sales force in navigating digital transformations. Echoing these sentiments, Atiyas and Dutz (2021) spotlight the digital divide pronounced across different age and gender demographics in Senegal. They emphasize the instrumental role of digital tools, such as 2G mobile phones and smartphones, in bolstering productivity amongst micro-sized firms. This dialogue is further extended by Wengler et al. (2021), who introduce a market-oriented transformation model to untangle the complex web of digital transformation in business-to-business sales.

A series of studies investigated the repercussions of environmental shifts and policy dynamics on sales productivity. Liu et al. (2021), for instance, probe the productivity landscape of China's real estate sector, cautioning against a potential decline in underdeveloped regions and highlighting the urgency for strategic policy interventions. This narrative is complemented by Addoum et al. (2020) who observe that

temperature fluctuations bear minimal influence on sales productivity in affluent nations, thereby challenging pre-established notions of environmentally sensitive industries. In a different vein, Makate et al. (2017) reveal how adopting climate-smart agricultural practices, such as drought-resistant maize, could potentially surge agricultural sales productivity in Zimbabwean setups.

As businesses in China strive to maintain a competitive edge, optimizing sales productivity emerges as a paramount objective. It necessitates a comprehensive approach that nurtures not only the skills and competencies of the sales team but also a conducive working environment that can foster well-being and spur productivity.

This study ventures into the burgeoning field of ergonomic office design in China, aiming to unearth the tangible and intangible benefits that such design philosophies can bestow upon the sales productivity of businesses operating in this locale. Leveraging insights from a variety of interdisciplinary perspectives, including architecture, psychology, and business management, we aspire to delineate strategies for optimizing sales productivity through a meticulous overhaul of office design, tailored to the unique demands and nuances of the Chinese corporate landscape.

The researcher will investigate the influence of ernogomic design on employee sales productivity. Through a symbiotic lens, the researchers will endeavor to harmonize the needs of the workforce with the strategic imperatives of network business organizations in Beijing, China, thus paving the path for a work environment that is not only productive but also conducive to nurturing the well-being of its employees.

Statement of the Problem

This study aims to investigate the influence of ergonomic office design on sales productivity in selected network companies in Beijing, China. Specifically, it answered the following questions:

1. What is assessment of the respondents on the maintenance of ergonomic office design of the selected network company in terms of:

1.1. accessibility;
1.2. flexibility;
1.3. capacity;
1.4. layout flexibility; and
1.5. work-in-process flow?

2. What is the level of sales productivity of the respondents in terms of:

2.1. efficiency;
2.2. effectiveness, and
2.3. performance?

3. Is there a correlation between the maintenance aspect of ergonomic office design and sales productivity in companies in Beijing, China?

Research Methodology

This study used a quantitative correlational design to investigate the relationship between ergonomic workplace design and sales productivity. The research was conducted at a prominent network company in Beijing, China, a market leader in the technology and communications industry. This company, which will remain undisclosed to maintain a degree of confidentiality and impartiality in the research process, is renowned for its expansive operations and pivotal role in the technological landscape both regionally and globally.

In the pursuit of a comprehensive understanding of the intricate dynamics between ergonomic office design and sales productivity, the researcher opted to engage with employees from a prominent network company situated in Beijing, China. The study involved 150 employees who met specific criteria, including active engagement with the company's office environment and experience with sales processes. A questionnaire was used for data collection, based on a 4-point Likert scale. Statistical tools were used to analyze the data, including frequency and percentage, mean, standard deviation, and Pearson's correlation coefficient. The mean measured the central tendency of respondents' perceptions and experiences, while standard deviation measured the spread of responses. Pearson's correlation coefficient helped understand the strength and direction of the relationship between ergonomic office design maintenance and sales productivity, providing insights into the extent to which changes in one variable corresponded to changes in the other. The study aimed to provide a comprehensive understanding of the relationship between ergonomic office design and sales productivity.

Results and Discussion

1. The study evaluates the ease of movement, convenience of essential resources, accessibility of emergency exits, provisions for individuals with disabilities, digital resources, and promotion of natural light and views in an ergonomic office design. The respondents' average rating is 2.65, indicating some ease of movement but occasional obstructions. The office design promotes easy access to natural light and views, which is well-implemented. However, there may be room for improvement in ensuring accessibility for individuals with disabilities.

The overall mean of the survey is 2.837, with a low standard deviation of 0.378. The ergonomic office design's accessibility aspects are generally evident, indicating that while there may be areas for improvement, the office layout and resources largely support ease of access for employees.

The study also assesses the maintenance of ergonomic office design within the selected network company in terms of flexibility. The first indicator evaluates the ease of reconfiguring the office space to cater to different needs, with a weighted mean of 2.98. The second indicator assesses the adjustability of office furniture to accommodate various tasks, with a weighted mean of 3.11, suggesting that the office furniture supports flexibility in task execution.

The third indicator examines the balance between collaborative and private workspaces, with a weighted mean of 2.59, suggesting that there may be room for improvement in this aspect of office design. The fourth indicator focuses on whether the workspace allows for both standing and sitting work positions, with a weighted mean of 2.77, supporting both positions.

The overall mean score falls within the "evident" interpretation range, indicating that the organization has made commendable efforts in maintaining an ergonomic office design with a focus on flexibility. However, there remains room for refinement to ensure an even more conducive and adaptable workspace for employees.

The study assesses the maintenance of ergonomic office design within a selected network company. The results show that the office space adequately supports the current number of employees, with sufficient space for storage and personal belongings. However, the lowest-rated indicator is "Common areas are spacious and do not feel crowded," suggesting potential concerns about the adequacy of space in shared areas. The overall mean across all indicators is 2.945, suggesting that on average, respondents perceive the capacity aspects of the ergonomic office design to be adequately addressed.

The positive perception of the adequacy of office space for the current workforce suggests that the organization has successfully planned and allocated resources to meet immediate capacity needs, contributing to employee comfort, productivity, and overall satisfaction with the work environment. However, the lower rating for common areas being perceived as potentially crowded highlights a potential area for improvement, such as reassessing the layout of common spaces, optimizing traffic flow, and potentially reallocating space to alleviate overcrowding.

The study also highlights the importance of layout flexibility in maintaining an ergonomic office design. The highest-rated indicator is "The office layout supports a variety of workstyles," indicating that respondents perceive the office layout as adaptable to different workstyles. However, the lowest-rated indicator is "The layout of the office can be easily altered to enhance workflow," suggesting that respondents may not consider the current layout as easily modifiable to optimize workflow efficiency.

The study reveals that while an organization has successfully maintained an ergonomic office design, there are areas for improvement to enhance its adaptability to meet evolving needs. The positive perception of the office layout supporting various workstyles indicates that the design accommodates different preferences and modes of working, contributing to employee satisfaction and productivity. However, the lower rating for the ease of altering the office layout to enhance workflow suggests a potential area for improvement. Streamlining processes for layout adjustments and considering employee feedback can help optimize the office environment for improved workflow efficiency and collaboration.

The study also found that the office design supports a logical sequence of work processes, with a weighted mean of 3.12. However, the lowest-rated indicator is "the office design facilitates a smooth flow of daily operations," suggesting potential challenges or inefficiencies in the workspace layout.

The findings suggest that while the organization has generally succeeded in maintaining an ergonomic office design, there are areas for improvement to further enhance operational efficiency and productivity. Creating designated spaces for collaboration and communication among team members could help streamline decision-making processes and foster creativity. Investing in adjustable furniture and ergonomic accessories could contribute to employee well-being and reduce the risk of musculoskeletal disorders. By addressing these areas, the organization can create a more conducive and efficient work environment that promotes productivity, collaboration, and employee satisfaction, ultimately resulting in improved morale, increased job performance, and higher retention rates.

2. The study evaluates the effectiveness of employees' workspaces in meeting sales targets. The highest-rated aspect is "My workspace allows me to work efficiently and meet deadlines," with a weighted mean of 3.15. This indicates that employees perceive their workspace as conducive to efficient work practices, crucial for meeting deadlines. The lowest-rated aspect is "I can meet my sales targets with the resources provided," suggesting potential challenges in meeting sales targets with current resource allocations. The overall mean across all indicators is 2.798, falling within the "productive" interpretation range. This indicates a generally satisfactory perception of sales productivity in terms of efficiency. However, the discrepancy between the overall mean and the highest-rated indicator hints at varying perceptions across different efficiency-related aspects of sales productivity.

The positive feedback regarding workspace efficiency and deadline adherence reflects effective provision of an environment conducive to efficient sales tasks execution, potentially leading to improved sales performance and overall productivity. Addressing these challenges could involve reevaluation of resource allocation strategies, provision of additional support or training to sales teams, and implementation of measures to optimize resource utilization.

Continually monitoring and adapting to market trends and customer preferences is crucial for maintaining a competitive edge. Fostering a culture of continuous improvement and innovation within the sales team will help drive ongoing success and maintain a strong position in the marketplace.

The study reveals that while the organization has maintained a productive sales environment, there are areas for improvement to enhance sales productivity. Focusing on areas where respondents rated lower could lead to targeted training or resources to improve overall effectiveness. By addressing these specific areas, the organization can work towards a more consistent and high level of sales productivity.

The positive feedback regarding the ability to consistently produce high-quality work reflects respondents' perception of effectiveness in the current office setting, potentially contributing to improved sales performance and overall productivity. However, the lower rating concerning the perceived contribution of the ergonomic design of the office to meeting sales objectives highlights potential opportunities for enhancement. Addressing these opportunities may involve further integrating ergonomic principles into the office design to directly support sales objectives and effectiveness.

Investing in adjustable desks and chairs, providing proper lighting, and creating designated spaces for collaboration and focus work can help create a more conducive and supportive work environment that will ultimately lead to increased sales performance and success in the marketplace. Conducting regular ergonomic assessments and seeking feedback from employees can help tailor the office design to better meet their needs and improve overall satisfaction and productivity.

3. The study analyzed the correlation between accessibility, flexibility, capacity, layout flexibility, work-in-process flow, and overall maintenance of ergonomic office design in Beijing, China.

Table 1. Correlation Between the Maintenance Aspect of Ergonomic Office Design and Sales Productivity in Companies in Beijing, China

OVERALL Maintenance Aspect of Ergonomic Office Design and Sales Productivity	Pearson Correlation	.016
	Sig. (2-tailed)	.850
	Decision	Accepted/ Not Significant

The results showed no significant correlation between accessibility, flexibility, capacity, layout flexibility, work-in-process flow, or overall maintenance of ergonomic office design and sales productivity. The null hypothesis was accepted for all three dimensions of sales productivity, indicating that other factors beyond accessibility may play a more significant role in determining sales productivity. The findings also showed no significant correlation between layout flexibility and sales productivity, suggesting that other factors beyond layout flexibility may have a more significant impact on sales productivity. The overall maintenance aspect of ergonomic office design did not show a significant relationship with sales productivity, suggesting that other factors beyond the scope of this analysis may have a more significant influence on sales productivity within these organizations.

Conclusion

The findings imply that within the context of these companies, factors beyond ergonomic office design maintenance may play a more substantial role in influencing sales productivity. While ergonomic design principles are important for creating conducive work environments, their direct impact on sales productivity may be mediated by other organizational and contextual factors that were not accounted for in this analysis. Further research exploring additional variables and their interplay with ergonomic design could provide deeper insights into enhancing sales productivity within similar organizational settings. The lack of significant correlation could stem from several factors. Firstly, sales productivity is a multifaceted outcome influenced by numerous variables beyond office design, such as sales strategies, market conditions, and customer relationships. While ergonomic office design can contribute to employee comfort and well-being, its effects may be overshadowed by the broader organizational dynamics that drive sales performance. Additionally, the specific nature of the sales process and industry norms may prioritize factors other than office design in determining productivity. For instance, the effectiveness of sales training programs, incentive structures, and managerial support could play a more prominent role in shaping sales outcomes. Moreover, individual differences among sales professionals, including their skills, motivation levels, and work habits, may mitigate the direct impact of office design on productivity. Therefore, while ergonomic office design remains important for fostering a positive work environment, its influence on sales productivity may be mediated by a complex interplay of organizational, individual, and contextual factors. Further research exploring these dynamics in greater detail could provide valuable insights for optimizing sales performance in similar organizational settings.

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