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Bridging The Gap: Howsocio-Demographics Shape The Impact Of Coworking Environments On Productivity.

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ABSTRACT

As the modern workforce continues to evolve, understanding the factors that influence employee productivity has become increasingly crucial. Coworking spaces are emerged as a substitute to conventional office based and home based working to detangle the limitation of both by providing various amenities and enabling the occupants to socially interact, sharing ideas and knowledge. One area of growing interest is the impact of coworking environments on worker productivity, particularly in the context of socio-demographic differences. This study aims to investigate the relationship between coworking space members' productivity and the coworking space environment and moderating effect of age, gender, and education level are incorporated into the model. Partial Least Squares Structural Equation Modelling analysis proven the significant relationship of coworking space environments and productivity. The results also state that, factors such as gender, age, and education exhibit even stronger statistical significance as moderators than the direct link between environment and productivity.

Keywords: Coworking spaces, Coworking space Environment, Productivity, Socio- demographic factors.

1. Introduction

Coworking spaces have emerged as a prominent symbol of the modern workplace's ongoing evolution. Research has illuminated the numerous advantages associated with coworking, including enhanced collaboration, increased innovation, and greater flexibility. These spaces empower individuals to thrive in the new world of work, enabling them to connect, create, and cultivate their professional identities. The unique environment of coworking spacesallows individuals to leverage the amenities, aesthetics, and overall atmosphere to solidify their professional standing and build relationships that further enhance their work lives.

The increasing popularity of coworking spaces has revolutionized the modern workplace, offering a compelling alternative to traditional offices. However, if a one-size-fits-all approach will benefit all users is a mistake. The impact of coworking environments on productivity is significantly shaped by socio-demographic factors, highlighting the need for nuanced design and management strategies. Age and generational differences, for instance, can influence how individuals experience coworking. Younger generations might find the social aspect and networking opportunities particularly motivating, while older workers might prioritize quiet focus and established routines. Similarly, gender dynamics play a crucial role. Coworking spaces must be mindful of potential gender imbalances in certain industries and ensure that design elements and amenities cater equitably to the needs of all genders.

Furthermore, education and professional background can shape expectations and preferences. Individuals with

advanced degrees might have different requirements for privacy or access to specialized resources. Coworking spaces that cater to a diverse range of freelancers, entrepreneurs, and remote workers must consider these varying needs. Cultural background also plays a significant role, influencing communication styles, collaboration preferences, and perceptions of personal space.

Ultimately, understanding how socio-demographic factors influence the coworking experience is essential for creating inclusive and productive work environments. By moving beyond a one-size-fits-all model and embracing the diverse needs of their users, coworking spaces can truly unlock their full potential and foster productivity and well-being for all.

2. Review of Literature

Several studies have explored the impact of the work environment on employee productivity, consistently finding a strong correlation between the two. Research by Haynes, Barry P (2008) found that although distractions negatively impact productivity, positive engagement has an even stronger positive effect. While Tahir, M Tafique (2015) emphasized the importance of a positive workplace environment for both current operations and future competitive advantage. While all aspects of the work environment matter, certain factors have been identified as having a more significant impact on productivity. Similarly, Massoudi, Dr.Aram Hanna (2024) discovered that the behavioral aspects of a workplace,such as supervisor support and coworker relationships, have a greater impact on productivity than physical aspects alone. Bueno, Salvador (2018) highlighted the positive influence of social interaction on productivity, particularly in coworking spaces.

Furthermore, individual characteristics can moderate the relationship between the work environment and productivity. Research by Ogbuanya ChinyereTheresa (2022) found that age and educational qualifications can significantly moderate the relationship between job stress and productivity in electrical occupations.

In conclusion, a positive and supportive work environment is crucial for enhancing employee productivity. Understanding how socio-demographics shape the impact of coworking environments on productivity is crucial for optimizing these spaces for diverse individuals. While coworking spaces can offer benefits like social interaction and a stimulating environment, the extent to which these factors enhance productivity may be influenced by individual characteristics such as age, gender, education level, and work style preferences. Investigating these relationships can help coworking space designers and managers create inclusive environments that cater to the unique needs and preferences of their diverse user base, ultimately maximizing productivity and well-being for all.

3. Statement of the Problem

The modern work environment significantly impacts individual performance and productivity. Coworking spaces, offering a blend of collaborative social settings and enhanced physical amenities often absent in traditional offices or home setups, have emerged as a potential solution to optimize worker output. This study investigates the relationship between the coworking space environment and occupant productivity, specifically examining whether these spaces demonstrably enhance productivity and how demographic factors (age, gender, education level, etc.) may influence this relationship.

4. Objectives of the Study

1. Analyse the connection between the coworking space environment and the productivity levels.
2. Examine the influence of demographic characteristics, specifically age, gender, and education level, in the relationship between a coworking space environment and productivity.

5. Hypotheses of the Study

H1: There is a significant relationship between coworking space environment and productivity in coworking spaces.

H2: Age moderates the relationship between coworking space environment and productivity in coworking spaces.

H3: Gender moderates the relationship between coworking space environment and productivity in coworking spaces.

H4: Education level moderates the relationship between coworking space environment and productivity in coworking spaces.

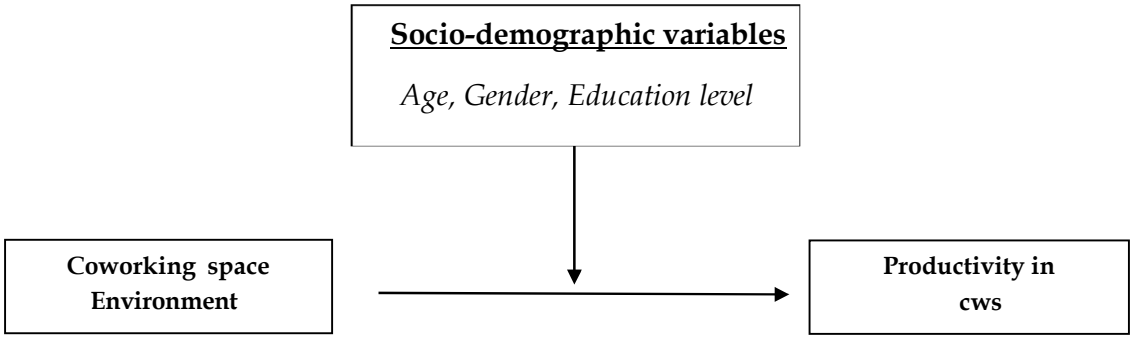
6. Research Methodology

The study adopts a quantitative research design to examine the hypothesized relationships and moderating effects. The target population for this study consists of individuals who use coworking spaces across different cities. To ensure the findings are generalizable, a sample size of 385 respondents was selected based on Cochran's sample size formula for a large population.

A 5-item measurement scale was used to assess the Coworking Space Environment (CE), focusing on key attributes related to physical, social, and environmental factors. This scale captures elements such as comfort, design, ambiance, and networking opportunities within the coworking space. For Productivity in coworking spaces (PR), a 6-item scale was employed to evaluate various aspects of user productivity, including the impact of social interactions, access to resources, work efficiency, and overall work quality.

The Partial Least Squares Structural Equation Modelling (PLS-SEM) was chosen to test the direct and moderating effects due to its ability to handle complex relationships and its suitability for this research.

Research Model



7. Results and Discussion

7.1. Demographic Profile:

The demographic data reveals a relatively even distribution of participants across the age groups of 20-39 years old, with the largest group being 30-39 year-olds (37.14%). Slightly more than half of the participants are male (51.43%), and the most common education level is undergraduate (32.73%), followed closely by postgraduate (30.39%).

Sl. No.	Demographic Characteristics	Frequency	%
1	**Age:**		
	Less than 20 years	41	10.65
	20-29 years	137	35.58
	30-39years	143	37.14
	Above 40 years	64	16.63
2	**Gender:**		
	Male	198	51.43
	Female	187	48.57

3	**Education level:**		
	Higher secondary	58	15.06
	Under graduate Post graduate Diploma	126	32.73
		117	30.39
		84	21.82

7.1. Reliability and Validity:

This study prioritized the accuracy of its measurements by carefully examining both reliability and validity. The initial assessment of individual item reliability, using measurement item loadings, showed promising results with all values exceeding 0.50. Recognizing the limitations of Cronbach's α as highlighted by (Peterson & Kim, 2013), Composite Reliability was employed to provide a more robust evaluation of internal consistency. The resulting CR values of 0.8042 for Coworking Space Environment and 0.7950 for Productivity in Coworking Spaces surpassed the accepted threshold of 0.70, confirming the reliability of both constructs.

Items	**Items**	**AVE**	**CR**
Coworking space environment (CE)		0.6581	0.8042
CE1	The comfortable seating, lighting and ambiance in my	0.7962	
	Coworking space help me stay focused and maintain a Productive workflow.		
CE2	The aesthetics and design of the coworking space increase my ability to have new ideas	0.6978	
CE3	The distractions that are present in my coworking space are Not negatively affecting my ability to complete my tasks	0.8045	
CE4	The food and drink available at my coworking space make Me work for a longer time without a break	0.7902	
CE5	The networking opportunities and interaction with others in my coworking space inspire me to be more motivated and Productive in my work.	0.8417	
Productivity in coworking spaces(PR)		0.6204	0.7950
PR1	The social interactions and collaborations I experience in a coworking space have enhanced my creativity and problem-solving abilities.	0.7930	
PR2	The professional atmosphere of the coworking space helps me maintain a consistent work routine more effectively.	0.8403	

PR3	Working from a coworking space has increased the quality of my work	0.7648	
PR4	The flexibility of working hours in a coworking space allows me to manage my work-life balance better, Contributing to higher overall productivity.	0.8150	
PR5	Access to better resources and technology in my coworking space has made my work more efficient and productive.	0.7578	
PR6	Working from a coworking space has reduced the time it takes me to complete my tasks.	0.7930	

Table2.*Convergent validity*

Convergent validity was established as the Average Variance Extracted for all reflective constructs exceeded the recommended cut-off point of 0.50. Discriminant validity, which ensures that the reflective constructs are distinct from one another, was confirmed by comparing the correlations between items in any two variables to the square root of the average variance extracted.

Constructs	CE	PR
Coworking space environment(CE)	0.8281	
Productivity in coworking spaces(PR)	0.6157	0.7426

Table3.*Discriminant validity*

To further ensure the robustness of the findings, the study assessed discriminant validity using the correlation matrix of constructs. Following the approach outlined by (Fornell & Larcker,1981),the analysis confirmed that the square root of the Average Variance Extracted for each construct exceeded the correlations between the constructs. This finding, evident in Table3, demonstrates that each construct shared a stronger correlation with its own indicators than with other constructs in the model, thus confirming adequate discriminant validity within the extended model.

7.1. Structural model analysis:

The Path analysis results of Partial Least Squares Structural Equation Modelling (PLS-SEM) provide insights into the relationship between coworking space environment and productivity, as well as the moderating effects of demographic factors such as gender, age, and education. The results states that the direct effect of the coworking space environment on productivity, with a p-value of 0.035, is statistically significant but lower in magnitude compared to the moderating effects of gender, age, and education. The p-values for the moderating effects (0.012, 0.006, and 0.004, respectively) indicate a stronger statistical significance. This suggests that while the coworking space environment itself plays a direct role in influencing productivity, demographic factors such as gender, age, and education exert an even more substantial impact by moderating this relationship. In particular, the stronger moderation effects imply that the way individuals perceive and respond to their work environment is highly influenced by these demographic variables, making them critical determinants in shaping overall productivity. Consequently, coworking spaces need to consider these demographic factors when designing their environments, as a generalized approach may not maximize productivity for all users.

Hypothesis	Paths	T statistics	P-value	Supported or Not
H1	**CE PR**	**2.109**	**0.035**	**Supported**

H2	**Age× CE □PR**	**2.510**	**0.012**	**Supported**
H3	**Gender× CE□PR**	**2.732**	**0.006**	**Supported**
H4	**Education× CE□PR**	**2.899**	**0.004**	**Supported**

Table4.*Path Coefficients of the Structural Model*

Hypothesis 1: *There is a relationship between the coworking space environment and productivity*

The hypothesis is tested with the help of Path analysis by structural Equation Modelling. The result of the path analysis is presented in Table 4. The result clearly states that, Coworking space environment (P – Value: 0.035) have a significant relationship with Productivity in coworking spaces. This finding supports Hypothesis 1, suggesting that a positive and well- designed coworking space environment contributes to enhanced individual productivity. This aligns with existing literature highlighting the benefits of coworking spaces, such as improved collaboration, networking opportunities, and a sense of community, all of which can positively influence work output. This emphasizes the importance of the physical and social environment in enhancing productivity. This result also underscores the need for coworking spaces to invest in creating conducive environments to maximize the productivity of their users.

7.1. Moderation Testing:

Moderation testing was done to find out whether there is any influence of demographic variables such as age, gender, and education exist in the relationship between Coworking space environment and Productivity in coworking spaces.

Hypothesis 2: *There is a moderating effect of gender on the relationship between the coworking space environment and productivity*

The results indicated a significant moderating effect of gender on the relationship between coworking space environment and productivity (T statistics = 2.510, p = 0.012). This supports Hypothesis 2, suggesting that the strength and nature of the relationship between coworking space and productivity differ between genders. Gender differences in response to workplace environments have been documented in prior research. This result implies that coworking space initiatives should consider gender-specific needs when designing and managing spaces to ensure an inclusive and supportive environment for all users.

Further investigation is needed to understand the specific ways in which gender influences this relationship. For instance, future research could explore potential differences in preferences for specific coworking space features or the impact of gender dynamics within the coworking community.

Hypothesis 3: *There is a moderating effect of age on the relationship between the coworking space environment and productivity*

The analysis demonstrated a significant moderating effect of age on the relationship between coworking space environment and productivity (T statistics = 2.732, p = 0.006). This finding supports Hypothesis 3, indicating that the impact of the coworking space environment on productivity varies across different age groups. This suggests that generational differences in work styles, preferences, and technological adaptation might influence how individuals perceive and utilize coworking spaces. Age can influence preferences and requirements in a workspace. Younger individuals might prioritize dynamic, technologically integrated environments, while older individuals might prefer more traditional, quieter settings. This variation necessitates a diverse range of workspace options within coworking spaces to cater to the different age groups effectively, there by maximizing productivity across the board. The significant moderation effect of age suggests that coworking spaces should offer a mix of traditional and modern workspace settings. Incorporating flexible design elements that can be adjusted based on user preferences can cater to a broader audience.

Hypothesis 4: *There is a moderating effect of education on the relationship between the coworking space environment and productivity*

There is a significant moderating effect of education exist in the relationship between coworking space environment and productivity (T statistics = 2.899, p = 0.004). This supports Hypothesis 4, suggesting that the influence of the coworking space environment on productivity is contingent upon an individual's educational

background. This finding highlights the importance of considering the diverse educational profiles of coworkers when designing and managing coworking spaces. Individuals with different educational backgrounds may have varying expectations and requirements for their work environment. Higher educational attainment might correlate with a preference for environments that support independent and research-based work, while those with less educational background might prioritize facilities that support collaboration and skill-building. Understanding these differences can help coworking spaces tailor their offerings to better support the productivity of users from diverse educational backgrounds. The significant positive results underscore the importance of creating conducive and supportive coworking spaces to enhance individual work output.

8. Conclusion

This study makes several significant contributions to the understanding of coworking spaces and their impact on productivity. By empirically confirming a positive relationship between coworking space environment and productivity, the research strengthens the existing literature on this topic. The use of Structural Equation Modelling in the path analysis lends further weight to the findings, demonstrating a statistically significant impact of coworking space environment on productivity.

Furthermore, the study goes beyond simply establishing a relationship by uncovering the moderating influence of socio-demographic factors. The findings highlight that gender, age, and education level significantly shape how individuals experience and benefit from coworking environments. This nuanced understanding is crucial for practitioners and researchers alike.

For coworking space designers and managers, the study underscores the importance of adopting a user-centered approach. Recognizing that a one-size-fits-all model may not be effective, the findings encourage the creation of diverse and inclusive spaces that cater to the unique needs and preferences of individuals across different genders, age groups, and educational backgrounds. By considering these individual differences, coworking spaces can be designed to maximize their potential in fostering both productivity and well-being among their diverse user base.

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