

ASSESSING THE ROLE OF PROXIMITY IN KNOWLEDGE SHARING AMONG HETEROGENEOUS USERS IN COLLABORATIVE SPACES

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ABSTRACT

The idea of an ideal workplace in the minds of people is usually conceived as a place where one can completely focus on their work, a place without any disturbance. It is observed that the creativity and knowledge of an individual is confined within that ideal space. In a collaborative space the outlook is notably different, there is more focus on knowledge sharing and fostering the sense of community among users. People from diverse professional backgrounds are users at collaborative spaces, and to facilitate knowledge sharing among them, proximity plays the role of a catalyst. Proximity is more than just physical spacing among users of that space; it is about being able to network with others in a collaborative workspace. The more flexible and fluid the workplace, greater is the outcome of the exchange of shared values and experience. This paper aims to highlight how the physical spacing between co-workers helps them leverage knowledge and create a synergistic effect. Primary data will be collected through administering questionnaire along with structured interview conducted with the community associate of the collaborative spaces, to understand their perception about the knowledge sharing phenomenon. The statistical tools used for this study is correlation and regression analysis. The study is both descriptive and analytical in nature. The recommendations of this study will help the host understand the user's perception about the physical spacing based on their seating arrangement and the different ways they benefit from it.

Keywords: Collaborative Spaces, Knowledge Sharing, Leverage Knowledge, Synergistic Effect.

Introduction

Over the years, traditional work structures have advanced to open office layouts. A collaborative workspace environment creates a distinctive aura that inspires people to enjoy their work as they no longer sit boxed up in cubicles, it gives them the feeling of a community and the freedom to create, learn and explore beyond their comfort zone.

Collaborative spaces are becoming increasingly popular among all sizes of operations, as they offer a plethora of benefits to their users. The future of the workplace is a fluid collaborative environment where tasks are accomplished in a variety of ways. Some individuals are focused on a single task while the other users work throughout the facility and to make this happen in a very efficient and productive manner, a lot of planning goes into spatial design and proximity in such shared workplaces. By offering users with collaborative spaces, modern co-working facilities intended to enhance the feeling of community. The occupants' effectiveness and comfort outshine, providing as the cornerstone for productivity, innovation, collaboration and the formation of professional networks (Sharma, N., & Reddy,

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B. A. K. 2022)¹ Knowledge sharing not only helps in the professional growth of an individual but is also considered a crucial factor in organizations when it comes to work performance, competitive advantage, and sustainability. Diverse users join collaborative spaces for their own business interests, transfer ideas and exploit synergies with other fellow co-workers (Rese, A., et al. 2020)²

Proximity, the closeness between two or more people in a work space environment. There are different terminologies that can be used as synonyms for proximity, i.e., “physical distance”, “geographical distance” and “spatial colocation”. Proximity in a collaborative space helps people stay close and connected with each other in a work space. Previous studies have shown that interactions frequently occur in a close workspace which highlights the significance of the workspace as a tool for knowledge sharing behaviour and to add on, shared amenities and open common work spaces have been directed to stimulate networking opportunities and knowledge sharing behaviour between co-workers. (Weijs - Perrée, M., et al. 2019)³. Moreover, the structural design of buildings allows encounters between users by channelling them into common areas where there is a high possibility of interacting with others (Irving, et.al 2020)⁴.

Physical distance between different professionals is becoming increasingly popular and is getting more attention in workspace studies as a factor that allows informal information exchanges between colleagues. Proximity is clearly understood when the spatial design and layouts are carefully designed to facilitate regular interactions between co-workers.

Cognitive proximity, is described as the similarities between two or more people's minds.

It implies that participants exchanging new knowledge see, interpret, and evaluate it in a same way. People with the same existing knowledge can learn more from one another (Renato Garcia, et.al Costa 2018)⁵.

Knowledge Sharing, the flow of valuable knowledge is critical for assuring its legitimacy and understanding from the other side of the process. Knowledge transfer has grown more efficient and successful as a result of recent technological advancements. The literature describes two categories of knowledge: tacit and explicit knowledge. Tacit knowledge is imbued with actions and experiences, along with cognitive and technical components expressed in symbolic or natural language (Mathrani, S., & Edwards, B. 2020)⁶

The process of sharing tacit and explicit information from one individual to another is known as knowledge sharing. Sharing information and experiences within an organization/community not only boosts productivity, but it also enables people to accomplish their tasks more effectively and efficiently and this is possible when they have easy access to information, right technology, and expertise. In a collaborative set up there are different ways in which knowledge sharing takes place, in terms of events, workshops, discussion in hallways etc.

Knowledge sharing is considered as one of the most crucial yet overlooked aspects of workplace growth. When employees are unsuccessful in getting access to the knowledge and information necessary for completing their assigned tasks, the organization fails to grow. Knowledge sharing in a collaborative space can boost productivity, social communication and the trust factor among team members. It's great for nurturing the organization's knowledge bank so everyone can access it even as people come and go.

When there is heterogeneity in a work environment the productivity levels increase and the reason behind this is very clear that people from a wide range of diverse backgrounds hold different levels of skills, expertise and knowledge in their particular domain.

¹ Sharma, N., & Reddy, B. A. K. (2022). Enriching co-working spaces with biophilic design: Its impact in enhancing user preferences. *Inspira- Journal of Modern Management & Entrepreneurship (JMME)*, 12(01), 51-60

² Rese, A., et al. (2020), "Factors influencing members' knowledge sharing and creative performance in coworking spaces",

³ Weijs - Perrée, M., et al. (2019), "The influence of the physical work environment of business centres on social networking and knowledge sharing in the Netherlands", *Intelligent buildings international*, 11(2), 105-125)

⁴ Irving, et.al (2020). Collaboration, Physical Proximity and Serendipitous Encounters: Avoiding collaboration in a collaborative building, *Organization Studies*, 41(8), 1123–1146

⁵ Renato Garcia, et.al (2018): Is cognitive proximity a driver of geographical distance of university–industry collaboration? *Area Development and Policy*

⁶ Mathrani, S., & Edwards, B. (2020). Knowledge-Sharing Strategies in Distributed Collaborative Product Development. *Journal of Open Innovation: Technology, Market, and Complexity*, 6(4), 194. MDPI AG

Heterogeneous Users, are people from diverse professional backgrounds who are not associated with each other and belong to either different organizations or are independent in nature. These users have considerable knowledge and expertise in a particular profession and when come together from these diverse backgrounds, they bring in great ideas fostering inter-domain learning.

Collaborative Spaces, is an informal workplace that fosters to bring people together, creating a vibrant and synergistic environment to work, learn and create new ideas. Users at collaborative spaces create a social circle that facilitates networking among diverse individuals by creating new opportunities each day. Collaborative workspace design entails not just recognising the needs of a large number of people, but also bringing them together in an atmosphere where each person contributes to a bigger purpose (Kanell, N., 2022.)¹. Collaborative spaces differ in the layouts based on the preferences of their users. These spaces are meticulously designed giving ample room for networking and collaboration.

Review of Literature

Salazar Miranda A, Claudel M (2021), this study contextualizes the fact that there is a substantial effect on collaboration when researchers share the same building, it leads to collaboration and helps in network building. This study explains about physical proximity and shares information about how likely are scholars to collaborate in such environments. It is found that buildings where researchers are working in the same or related fields and from different departments tend to foster more collaboration. The authors further suggest that there is scope for research by stating that subsequent work can lead to a nuanced characterization of proximity and ways its effects are mediated by the physical design of buildings.

Micek, G. (2020), in their study sum up the discussion of coworking areas are share spaces that encourage a milieu for knowledge gaining interactions among their users. The author redefines coworking spaces as a physical set up those leads to strong cognitive, social and institutional proximities that facilitates knowledge related interaction and creation of innovation. The author argues that if organizational proximity in these collaborative spaces is often taken for granted, the heterogeneity of its users still exists

Rese, A., et al. (2020), in their paper describe that the creativity of co-workers improves with the attitude of knowledge sharing. There is a difference in the behaviour and attitude that mainly depends on the amount of collaboration orientation. Even though the atmosphere creates favourable conditions, knowledge sharing will be rated low if the collaborative orientation is low. The author further states that in order to foster creativity and create community development, coworking spaces must consider the differences in the knowledge sharing patterns of their co-workers.

Bouncken, R. and Aslam, M.M. (2019), in their study describe that the idea of coworking spaces focuses a lot on spatial co-location which in turn leads to better communication and sharing of knowledge among the diverse independent professionals. It is further understood that co-location enables users to learn across domains, and incorporates domain relate sharing of knowledge expertise, it also fosters tacit knowledge exchange and ignites an array of ideas among co-workers.

Weijs - Perrée, M., et al. (2019), this study shows that there are some age differences in context to knowledge sharing and hence in terms of further research there needs to be a more in-depth analysis of the difference in age groups (different generations). The authors add on stating that further research needs to be done to understand the different forms of interactions influence knowledge sharing patterns within and between organizations in business centres. The knowledge gap in this study demonstrates the relationship between the physical work environment and perceived knowledge sharing between organizations located in a business centre.

Werker, et al. (2019), in their paper reveal that complete physical nearness has a timely impact on the improvement of collaborations, proximity has a later impact on collaborations by generating great production. To add on, the institutional proximity of openly supported German research teams influences the development and production of cooperation. The organizational set-up of innovation systems shaping cooperation networks is clearly demonstrated. Cognitive proximity has a great impact on both the development and the maintenance of memory.

Holdt Christensen, P. and Pedersen, T. (2018), the authors in their study have explored the different mechanisms of how physical proximity influences knowledge sharing. Proximity leads to the

¹ Kanell, N. (2022). Collaborative workspaces. SpaceIQ. Retrieved May 8, 2022, from <https://spaceiq.com/blog/what-is-a-collaborative-workspace/>

formation of social relationships and conservation of resources in interacting with others. There is a strong direct relationship between proximity and knowledge sharing than the indirect means which is through social relationships. This study the two-fold effect of how proximity directly and indirectly influences knowledge sharing.

Criscuolo, P., Salter, A.J., & Wal, A.L. (2015), in this study it is understood that co-workers inhibit different skills and expertise, and what facilitates knowledge sharing between them is the physical vicinity. Even though there is more of knowledge sharing among co-workers with complementary skills, it is seen that when a group of professionals who do not have the same area of expertise share the table, the knowledge sharing outcome is more diverse. This leads to the advancement of cognitive proximity. The authors further contribute to the extensive literature on the knowledge sharing activities and how it shapes an individual.

Parrino, L. (2015), "Coworking: assessing the role of proximity in knowledge exchange". in their study identify the two distinct situations that exist in coworking, the first one is characterized on the basis of geographical proximity and the other one to be the different forms of proximity. The authors further state that the flow of knowledge within these shared spaces highlight the importance of how organizations foster knowledge exchange among co-workers.

Hua, Y., Loftness, et al. (2010)., this study throws light on collaborative spaces in a workplace setup and identifies the various layouts of a collaborative work setup. The authors mentions that the importance of amenities and shared services in collaborative workplace mainly depends on the ability to facilitate casual encounters among fellow co-workers which leads to knowledge exchange, socialization, creative development and collaboration. The findings of this study a systematic view of how certain layouts can support and inhibit collaborative work.

Tagliaventi, M. R., & Mattarelli, E. (2006), In their paper highlight that, knowledge flows between diverse individuals does not happen by randomly or just by chance or in a systematic way; rather, they efficiently take the help of specific actors who operate as brokers as a result of an intense exchange of spaces and activities, rather than their own level of participation in practice networks. Relationships with practice networks, on either hand, are critical for challenging and growing knowledge in organizations

Statement of the Problem

Collaborative spaces these days are swarming with a number of users from diverse professional backgrounds and with technology advancing at a rapid pace, the question of knowledge sharing comes into being. It is agreed that the transfer of knowledge takes place in a homogeneous workspace, but when a diverse group of professionals work together in these shared spaces, there is a need to understand the extent to which knowledge sharing takes place, and how does the physical distance closeness between these heterogeneous users act as a link between them to transfer knowledge. Only when there is collaboration and learning, the users grow as a community. The spatial design and physical distance between the users have often been reviewed in terms of the ambience of the workspace, and not how the spaces can play an important role in facilitating knowledge transfer between these diverse users. Therefore, this study aims to understand these a collaborative space and access the role of proximity in knowledge sharing. This primary aim of this research is to, assess the role of proximity in shared workspaces and the different ways in which it facilitates knowledge sharing among heterogeneous members. Conducting a detailed qualitative study from random users of collaborative spaces will help to understand the knowledge-sharing mechanism from an individual perspective.

Objectives of the Study

- To identify the relationship between proximity and knowledge sharing.
- To assess the role of collaborative spaces among diverse users in facilitating knowledge management.
- To examine how professionals leverage knowledge from fellow co-workers in collaborative spaces.

Research Methodology

- **Research Design:** For the purpose of this study, the type of research conducted is descriptive and analytical as it includes surveys, fact findings and enquiries regarding the same.
- **Sources of Data:** For the purpose of the study both primary and secondary data will be collected.

- **Primary Data:** Structured questionnaires and personal interview.
- **Secondary Data:** Websites, journals and reports.

Sampling Technique: For the purpose of this study the sampling technique used will be – deliberate sampling. Using this technique, the sample is selected based on the population who are users at collaborative spaces and the sample size is 110.

Hypotheses

Objective: To identify the relationship between proximity and knowledge sharing.

H₀: There is no significant relationship between proximity and knowledge sharing.

H₁: There is a significant relationship between proximity and knowledge sharing.

Objective: To examine how professionals leverage knowledge from fellow co-workers in collaborative spaces.

H₀: Collaborative spaces does not impact knowledge sharing among various professionals

H₂: Collaborative spaces impact knowledge sharing among various professionals

Limitations

This research is limited to collaborative spaces in Bangalore, which covers only one major component of a collaborative space, that is proximity and its role in knowledge exchange in collaborative spaces.

Finding and Analysis

This study is both Analytical and Descriptive in nature. The sample size is restricted to 110 since the study is limited to collaborative spaces in Bangalore. The Analysis was done using different tests based on the hypothesis framed, i.e., Correlation and Regression analysis.

H₁: There is a significant relationship between proximity and knowledge sharing.

The hypothesis is tested using correlation analysis (Spearman's Rank Correlation), since the data is not normal ($p = .027$) i.e., less than 0.05.

Table 1: Correlation

			Proximity	Knowledge Sharing
Spearman's rho		Correlation Coefficient	1.000	.191 ^b
	Proximity	Sig. (2-tailed)		.046
		N	110	110
		Correlation Coefficient	.191 ^a	1.000
	Knowledge Sharing	Sig. (2-tailed)	.046	
		N	110	110
(Primary source)				

*Correlation is significant at the 0.05 level (2-tailed)

For the above stated hypothesis, correlation analysis is used to find the significant relationship between the dependent and independent variable. From Table 01, it can be concluded that there is a positive relationship between proximity and knowledge sharing. $R = 0.191$ and the Sig. Value = $0.046 < 0.05$, since the P value is less than 0.05, alternative hypothesis is accepted. Professionals from diverse backgrounds share knowledge, experiences, come up with greater and innovative ideas and proximity between co-workers being a catalyst in facilitating exchange of shared information. Users who are freelancers, marketing professionals, entrepreneurs, prefer an open layout seating arrangement and prefer closer physical proximity, with their co-workers that facilitates collaboration, networking between them leading to sharing of valuable information. Users who are accountants, financial analysts or researchers prefer to be seated away from the others in solitude. They prefer a quiet working place, but also agree to the fact that collaborative spaces help them expand their professional network and gain valuable insights that have helped them perform better.

Hypothesis 2

H₂: Collaborative spaces impact knowledge sharing among various professionals

The hypothesis is tested using Regression Analysis to examine the impact of collaborative spaces on knowledge sharing

Table 2: Regression Analysis

Table 2: ANOVA ^a					
	Sum of Squares	Df	Mean Square	F	Sig.
Regression	6.060	1	6.060	2.788	.003
Residual	19.613	108	.182		
Total	25.673	109			
(Primary Source) Dependent Variable: knowledge_sharing_mean Predictors: (Constant), collaborative_spaces_mean					

Table 2 (a): Model Summary			
R	R Square	Adjusted R Square	Std. Error of the Estimate
.486 ^a	.236	.229	.42615
a. Predictors: (Constant), collaborative_spaces_mean (Primary Source)			

Table 2 (b): Coefficients					
	Unstandardized B	Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
(Constant)	2.112	.373		5.660	<.001
collaborative_spaces_mean	.503	.087	.486	5.777	<.001
(Primary Source)					

From Table 02, it can be concluded that P is .003 i.e., less than 0.05, hence alternative hypothesis is accepted, which signifies those collaborative spaces impact knowledge sharing among various professionals. Table 02(a): depicts R² value is .236, i.e., there is a 23.6% impact of collaborative spaces on knowledge sharing among various professionals. This provides the users with ample opportunities to leverage knowledge from their fellow co-workers in collaborative spaces. Leveraging knowledge from co-workers can be done by interacting with different professionals of the same sector or even heterogeneous users whose knowledge and skills can add value to your work, helping you provide better results. Further, it is inferred from the Table 3 (b) using $Y = a + bX$ Where, $a = 2.112$, Y (dependent variable) is knowledge sharing and X (Independent variable) is collaborative spaces i.e., $2.112 + 0.503$. Collaborative spaces, shows a regression of knowledge sharing is valid at .503 which indicates that as the value of X variable (collaborative spaces) increases by 1, the value of Y Variable (knowledge sharing) increases by .503.

Conclusion

This study has examined the role of proximity in knowledge sharing among heterogeneous users in collaborative spaces. Extensive literature review demonstrates that in collaborative spaces proximity plays an important role in knowledge sharing among diverse professionals, proximity fosters social relations between co-workers and social networks diminish an individual's hostility to transfer valuable knowledge and hence such a platform increases levels of knowledge sharing and increased distance on the contrary has a negative influence on the frequency of knowledge sharing (Holdt Christensen, et.al,2018)¹, the findings of this study support the same. Proximity holds significant importance when users are selecting their collaborative space. The outcomes also show that there is a significant relationship between proximity and knowledge sharing, and therefore collaborative spaces must focus more on the seating arrangement and physical proximity between users in order to boost productivity levels and enhance knowledge sharing abilities among co-workers.

Co-location of users in collaborative spaces is primarily about physical proximity and secondary about networking and collaborating with diverse users, which then enhances cognitive proximity. Therefore, spatial co-location can allow tacit knowledge transfer, kindle social disembodiment of creative ideas, facilitate knowledge sharing within the same domain and encourage learning across domains. The knowledge sharing phenomena, allow collaborative spaces to boost these positive results. (Bouncken, R. and Aslam, M.M. (2019)²

¹ Holdt Christensen, P. and Pedersen, T. (2018), "The dual influences of proximity on knowledge sharing", Journal of Knowledge Management, Vol. 22 No. 8, pp. 1782- 1802

² Bouncken, R. and Aslam, M.M. (2019), "Understanding knowledge exchange processes among diverse users of coworking-spaces", Journal of Knowledge Management, Vol. 23 No. 10, pp. 2067-2085

The study further highlights the impact of collaborative spaces on knowledge sharing among various professionals. A collaborative space gives the feeling of community and creates an informal learning atmosphere, work related conversations that are intellectually stimulating which takes place in these spaces and are often occur in the hallways, lounge area, open layouts etc, and improve the thought process of co-workers.

Research Implications and Scope for Further Research

The recommendations of this study are aimed to the host, to help understand the user's perception about the proximity based on their seating arrangement and the different ways they benefit from it. Each user looks into different factors while selecting a collaborative space and proximity being one of them will help the host get a clear idea on how to work on the spatial design and layouts, in order to escalate productivity levels. Additionally, this study also aims at the users, particularly those who prefer an open layout like, freelancers, designers, entrepreneurs, marketing consultants who can get an idea to select the right seat of their choice that will help them improve their knowledge and skills and network with a diverse set of intellectual minds.

Further research can aim to study proximity for a particular set of homogeneous professionals, or users who chose to sit in a particular layout. Some collaborative spaces are preferred by a particular set of homogeneous users and hence the study can be undertaken in a variety of collaborative spaces. Future studies can throw more light on how proximity influences knowledge sharing and productivity of a homogeneous set of users.

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