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Significance of Office Design: A Quantitative With Supplementation of Office Politics In A Moderating Role

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Abstract

The study is based upon effect of office design elements on performance of faculty of higher education institutions (HEIs) from Karachi. Study uses quantitative technique and deductive approach with office politics as the moderating variable to understand how office politics may diminish the outcome of effective ergonomics. Data has been collected through closed ended questionnaire that has been analyzed through SMART-PLS through using SEM. Analysis predicted that office politics is a serious element that must be reduced especially in higher education institutes as it has the ability to remove positive impact the office design elements.

Key Words: *Office Design, HEIs, Faculty Members & Office Ergonomics.*

Introduction

This sort of office plans allows and empowers the exchanging of information Hameed and Amjad (2009) fought that affiliations should recognize the component of working conditions as a gauge to measure its agents' dimension of comfort. Factory administrator Davis, Leach and Clegg (2011) explained the focal points and the threats of open game plan work environments, which nowadays are seen as prominent and progressively amazing.

According to Haynes (2008), direct work environment components have a greater influence than physical work environment components. Additionally, on an earth where correspondence is highly measured, innovative thinking is reinforced and important worth-based data is moved. According to Arokiasamy's (2013) research, elements such as pay, incentives, supervisor security, and the workplace atmosphere complement the evaluation of duty and sense of belonging to the association.

Problem Statement

In this customized era, different researchers have made multiple researches on these factors that helped organization to realize the importance of employee performance by providing them different comforts and reliefs in work place. This will produce better and feel relax, by having

these benefits and like office design and other related furniture make employee or working to work with full dedication, honesty and enthusiasms (Sehgal, 2012). A good working environment changes the mindset of employees and its approach during performing the job. As stated by Berg, (2015) that whole working environment in job has generous effect on employee behavior and view towards companies to handle and manage the work easily which help to balance the family life, as described above factors it will help to have the good working environment. The employee productivity is also influenced by the office environment and surroundings (EI-Zeiny,2013). When employee put less efforts and energy but achieves the objectives means productivity (Rui &Pitarma, 2003). On the other side quality of performance increases overall performance of the organization with the help of comfortable environment and enterprise functions (Dorgan, 1994). Clarity in different work processes gives positive directions to employees which will duly increase the outcomes and help to achieve the objectives of the organization easily (Olalere, 2014).

A research conducted by Gensler (2005) which evaluated the impact of office working environment has impact which improves the productivity. So after evaluating different research models, researcher merge these models and wanted to explored the impact of noise, lighting, office furniture, spatial arrangement, temperature, color and CCTV on office design towards employees performance in moderation impact by Office politics. Interior design is being used by many organizations in order to attract and retain their employees. (Akhtar, Salman, Rehman & Ijaz, 2014) These findings are also supported by American society of interior designers (1999) and Hameed, (2009) But in Pakistan office or workplace environment issue has not got that much importance. (Akhtar, Salman, Rehman & Ijaz, 2014)

Literature Review

Office Furniture:

Office furniture includes shelves, drawers, seats, and desks. These items are in charge of increasing or decreasing the profitability of specialists in the same way as they do final job. One of the most notable issues with office furniture purchases is its ergonomics, which is important because delegates must use it for the whole time they are at the workplace (Sehgal, 2015 & Saha, 2016). In Pakistan the usual office timings are from 9 AM to 5 PM & laborers contribute the majority of their office vitality in uses office furniture and that is the reason we could appreciate why office furniture is a champion among the most serious factors on framing they gainfulness (Akhtar, Ali, Salman, Rehman and Ijaz, 2014). Though the possibility of any injury is reduced with ergonomic workplace furniture. They are arranged to minimize the likelihood of any setbacks at work and to make them safe to be around (Akhtar et al., 2014).

Color:

Among the various factors of office configuration, shading is likewise treated as the one which is significant in affecting be altered as the consequence of progress in innovation and as the aftereffect of necessity of various staff having distinctive gauge and operational method (Quible, 2000).One more exploration job indicated outside that the criterion moderator and selecting the workplace hardware isn't simple for the organization as the determination of office gear should likewise done as per the inclination and solace of the individual who are going to utilize these types of gear (Cullen, 2002). Furthermore should as per the expense of accomplishing these gear, their strength their unwavering quality and steadfastness so as to create increasingly more solace for the representatives and so as to give them fulfillment and to lift their proficiency and adequacy (Cullen, 2002).

Spatial Arrangements:

According to research conducted in 2007, the majority of workers recognize that the present is a force of occupation opportunity quality and an increase in employee productivity. As such the usage of office work area zones isn't supported by colossal affiliations nowadays and associations have endeavoring to replace the sort of office area as tinier working station.
Associations have doing this not only to save the money relate with work area different regions, yet there are some several reasons too which are driving associations in overriding the working station with work zones. These reason are more eco-pleasing structure of work area territories with meager sheets (Chen, 2011). Although from 1940's to 1950's associations use to develop colossal working environments for their agents in "Warm up territory" structure where we saw unrefined after the another of open work zones with the same division of sound or visual advancement (Sullivan, 2013). In some office there was no assurance to the working environments had regularly overflowing with disturbance. (Lagorio Chafkin, 2014) working time these events there was unimportant criticalness securities of delegate at work spot as no any one believe this at the factor relate with pros gainfulness (Sawal, 2014).

Noise:

This sort of normal polluted which have logically outrageous outcome then our estimation is known as Noise. Different wellsprings of racket defilement join the upheaval from advancement adventures, uproar to road traffic, air traffic and from air terminals. While when we talk about the effect of noise at work the bustle which can disturb the work is from synchronous dialog.
Be that as it may, inspiration driving why we doesn't give needed thought towards this is noise do not produces observable results often, and that is the reason that most of us acknowledges that confusion isn't the reason behind prosperity related issues. Regardless, the progressing examination work in like manner perceives that noise can in like manner makes unsafe impact of human prosperity (Sehgal, 2012).

CCTV:

The basic surveys from various theoretical works have given underneath Vivien Carli (2008). This report shall give the peruses a course of action of exchanges, in light of a target examination of the accessible arrangements all through the world. It watches out for the recorded foundation of CCTV & its abundance & service. It correspondingly assesses the likelihood of the move of perception social solicitations and the assertion of rights individual & advances more talks and examination during strategy proposal (Martin & Angela, 2005).

Office Politics:

Marques (2010) Organizational administrative issues and its estimation on occupation satisfaction of the delegates of prosperity region. The calm exercises of the delegates to achieve the individual favorable circumstances are conflictingly related to the movement satisfaction measurement of the specialists in the prosperity division. Research similarly dissected the political exercises of the affiliation dependent on their procedures are oppositely related to the action satisfaction measurement of the delegates in the prosperity territory. The weakness revealed in this examination results from the limited thought of the workers' powers, the cloudy methodologies of their associations and the way wherein the chiefs treat their specialists. This examination has proposals for research and practice in human resource headway. Lien, (2005)The political lead of

people in the association is influence by game plan of portions. These portions can be generally mentioned into individual and genuine components. Individual Factors: (Gull & Zaidi, 2012).

Research Methods

Methodology

The purpose of this study is descriptive in nature and nature of investigation is cross sectional (Sekaan & Bougie, 2016). The philosophy of research associated with the study is epistemology and research stance linked with the work is realism (Saunders, 2011). The method used for research in deductive and the researcher interference was moderate as the questionnaire has been filled through consulting respondents at their offices and placers of their own choice (Sekaan & Bougie, 2016).

Method of Data Collection

The data has been collected through closed ended questionnaire with likert scale as this study is based upon gathering of attitudes shaped up by office design elements (Likert, 1932). Moreover this type of scale has been applicable to several types of constructs (Revilla, Saris & Krosnick, 2014).

Sampling Technique

Research aims discover the relationship between office design and employee's performance of private sector universities. Therefore the sampling used is probability sampling while method is Simple Random Sampling.
Through using this sampling technique researcher collect data from the faculty members of private sector higher education in states operating in Karachi. This type of sampling has been supported by the work of Hameed & Amjad (2009) and Hansika and Amarathunga (2009) etc. The other reason for preferring Simple Random Sampling rather than any other method of Probability Sampling is the study is only focused on faculty members and as per limitation of the study sample cannot be a hybrid of faculty teaching courses in different disciplines. Thus the study generically focused upon permanent faculty members.

Sample size

The Sample size of the study is of 127 respondents. The reason behind this is noncompliance of respondents due to restrictions imposed by management as well as personal reluctance in providing data. Moreover faculty is non-stationary and hence the entire faculty of any institute is not present at their main campuses. Furthermore the flexible timing of faculty also impair data collection and thus limit our study to 127 respondents although initially 200 questionnaires were circulated but could not receive more than 127 in filled form.

Instrument of Data Collection

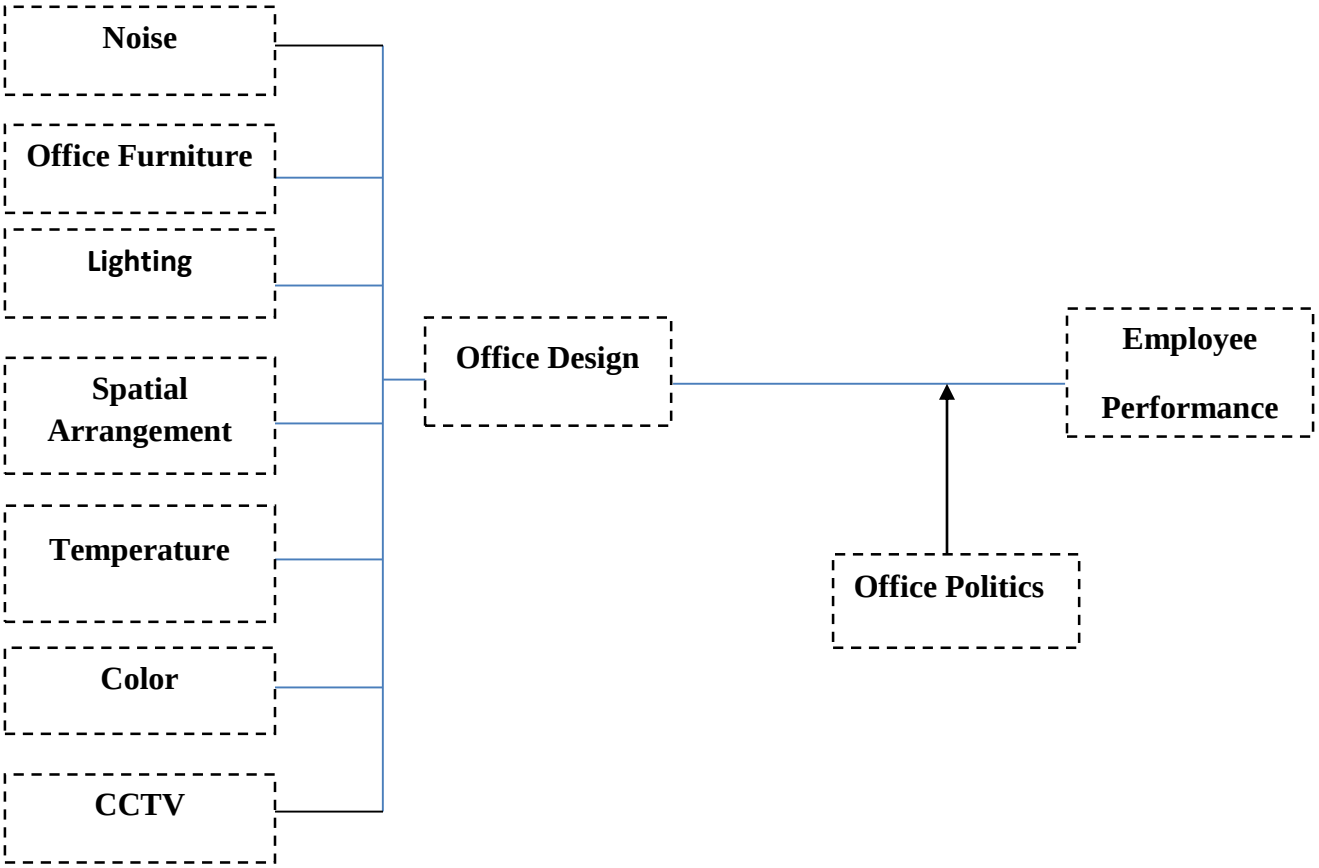
Adapted closed ended questionnaire based upon studies of (Gull & Zaidi, 2012), Marques (2010) is used for the collection of data. Although researcher also incorporated the questionnaire in Google docs but due to burden of work and restrictions only 15 respondents provided their

response through Google docs. Therefore the collection of most of the data has been done through printed questionnaire.

Validity and Reliability Tests:

Pilot testing has been done in arrange to assure the quality of data collection through taking reference of Maiyaki and Mohd Mokhtar (2011)**.**Therefore collected data has been gone through with the process of data cleaning and sorting and after the successful pilot testing based upon 25 respondents the further data has been collected. Although order to assure the quality of the collected data researcher imposed outer loading analysis (reliability testing), Quality Criteria (R-Square) and Discriminate Validity (Heterotrait-Monotrait Ratio) through SMART PLS software.

Figure 1: Theoretical Frame Work (Schematic Model) Office Design



Statistical Testing & Analysis

Table 1: Quality Criteria

	R Square	R Square Adjusted
Employee Performance	0.812	0.750
Office Design	0.878	0.817

Table 1 indicated that value of R-Square is more than 75% that means dependent variable has been predicted by the independent variable i.e. elements of office design. Moreover table also indicated that the value of R-Square for each case is less than 10% that means the variables also do not have multi-co linearity. Therefore the data is said to be reliable for inferential testing. The assessment of a model's quality is based on its ability to predict endogenous constructs.

The coefficient of determination (R-Square) is a measure of the model's predictive accuracy. According to Hair et al. (2017), an acceptable level for R-Square should usually be higher than 0.25 for key target constructs.

Table 2: Heterotrait-Monotrait Ratio (HTMT)

	CCTV	Color	EP	Lighting	Moderating Effect 1	Noise	Office Design	Office Furniture	OP	SA	Temp
CCTV											
Color	0.716										
Employee Performance	0.463	0.411									
Lighting	0.775	0.458	0.453								
Moderating Effect 1	0.354	0.267	0.454	0.307							
Noise	0.723	0.787	0.637	0.839	0.232						
Office Design	0.714	0.784	0.588	0.510	0.388	0.590					
Office Furniture	0.791	0.723	0.591	0.759	0.227	0.427	0.664				
Office Politics	0.712	0.758	0.605	0.757	0.242	0.538	0.721	0.686			
Spatial Arrangement	0.565	0.728	0.439	0.595	0.393	0.630	0.568	0.619	0.607		
Temperature	0.467	0.263	0.298	0.532	0.234	0.435	0.566	0.548	0.499	0.505	

Table 3 indicated that value of discriminate validity for the entire construct and highlighted that the value of reliability for independent, dependent as well as moderating variables are less than 0.8. Therefore it is legitimate to believe that the validity appropriate for entire set of variables is appropriate and the model must be evaluated for further results through using inferencetial statistical technique. This is applicable as posited byHTMT < 0.85 (Kline, 2011), HTMT < 0.90 (Gold et al. 2001)

As per the table 3 sample mean for all the variables are more than 0.70 that means the mean value is predicting positive preference of the respondents as the value of mean for all variables is near to 1. Moreover the t value for all the variables is more than 3 therefore it is said to valid that

all the variables are creating positive impact on the dependent variable is cost advantage and its other sub variables.

At last but not the least the p-value for all variables is 0.000 therefore it is legitimate to believe that the values are significant and independent variables are fostering clear impact on the dependent variables.

Table 3: Path Coefficient

	Original Sample (O)	Sample Mean (M)	Standard Deviation	T Statistics (|O/STDEV|)	P Values
CCTV -> Office Design	0.789	0.715	0.013	6.228	**0.000**
Color -> Office Design	0.898	0.830	0.014	**10**.091	**0.000**
Lighting -> Office Design	0.766	0.726	0.018	10.080	**0.000**
Moderating Effect 1 -> Employee Performance	0.784	0.777	0.150	2.918	**0.000**
Noise -> Office Design	0.842	0.809	0.021	12.367	**0.000**
Office Design -> Employee Performance	0.705	0.713	0.122	2.042	**0.042**
Office Furniture -> Office Design	0.789	0.701	0.038	8.792	**0.000**
Office Politics -> Employee Performance	0.829	0.805	0.124	2.918	**0.004**
Spatial Arrangement -> Office Design	0.981	0.900	0.016	10.080	**0.000**
Temperature -> Office Design	0.926	0.916	0.009	6.518	**0.000**

Findings and Interpretation of the Results

The final outcome reveals that Noise, Temperature, Lightening, CCTV and Color offers motivation to essential elements to Office design on the employee performance , that employees are the most valuable resource on the performance of organizations. Therefore, keeping qualified, competent and motivated employee leads to the success of the organization. Finding also tells that there is a optimistic substantial connection between Office design and employee performance.

Hypotheses Assessment Summary:

H_1A: Office color and employee performance have a positive relationship.

H_2A: Close circuit cameras (electronic) and employee performance have a positive relationship.

H_3A: Lightening and employee performance have a positive relationship.

H_4A: Noise and employee performance have a positive relationship.

H_5A: Office furniture and employee performance have a positive relationship.

H_6A: Spatial arrangement and employee performance have a positive relationship.

H_7A: Temperature and employee performance have a positive relationship.

H_8A: ventilation and employee performance have a positive relationship.

H_9A: Office politics does moderates the relationship between office design elements and employee performance.

Conclusion, Policy Implications And Future Research

Conclusion

The study highlighted there is a definite impact of office design elements on employee productivity. This has been analyzed through using SMART PLS as the study is associated with theory building approach. The parameters used for the analyses are descriptive statistics and inferential statistics. Descriptive analysis has been made through reliability, Quality Criteria and Discriminate Validity and through the analyses it has been indicated that the data used for the study is reliable and valid for using inferential statistics. On the other side the inferential statistics has been accompanied with path analyses through the use of structural equation modeling and analyses indicated that office design and all of its sub variables have positive impact on employee productivity. This is legitimate to believe that as table 4 indicated that the t-value for each relation is more than three (3) and the sig-value for entire range of analysis whether for independent relationship or for relationship of iv-moderator-dependent variable the sig-value are 0.000.

Discussion:

Research also explain that fewer importance is known to the office design, especially in Pakistan and it honestly affects to employees' performance, but they are incapable to complain about that problem (Amina & Shehla, 2009). On the other hand Sultan et al (2016) on office design inducted that the further studies on office design might be done through emphasizing upon variables like temperature, humidity and spatial arrangement. The reason why there is a continuous requirement of research on office design as El-Zeiny (2013) posited that office condition causes to upgrade representatives' efficiency.

Therefore the reason of this study is to examine the impact of office design element on employee performance of employees of higher educational sector of Karachi. The findings of the study is found to be coherent with the recommendations of Sultan et al (2016) that temperature and spatial arrangement are creating impact on employee efficiency. On the other side the study conducted on office design facilities of software industry of Pakistan by Riaz Shoaib and Sarfraz (2017) also uses variables like noise, temperature and spatial arrangements and find positive impact on these variables on employee efficiency and health. Although health related criteria might not be accessed through subjective (primary data) therefore thus study sticks with the use of office design elements on employee performance and results indicates positive results for all the variables used in this study.

On the other hand research conducted on office design under western perspective like Ball (2010), Jeske and Stamov (2015) and Smith and Amick (1989) also indicated the role of electronic surveillance as the part of office design although there is minimal research work in Asian context which includes this variable as the part of office design. Therefore the study also uses this variable in order to trace the impact of electronic surveillance on the productivity of employees of higher education where electronic surveillance is required to assure safety of intellectual properties and to deal effectively with issues like harassments etc.

The results of the study indicated that there is a helpful result force of electric surveillance on employee productivity and these results are in support of qualitative study conducted in India by Indiparambil (2017) that electronic surveillance is effective for organization control & modern techniques of electronic surveillance might also optimize the attitude as well as behaviors of employees (Stantojn & Weiss, 2000).

Policy Implications

The study reveals that staff of HEIs and Universities of Karachi prefers to have office design accompanied effectively with furniture, office equipment, proper lightening and color with effective spatial arrangement in order to induce privacy and productivity.

Moreover employee also prefers to have noise free and temperature controlled environment supplemented with protection through electronic surveillance in order to have suffocation and pollution free environment. These finding posited that staff react positively towards the elements which optimizes security, privacy and control of work place. Therefore HR managers in association with administration managers must focus towards the betterment of office design in order to foster creativity and increase level of productivity.

Future Research

As mentioned earlier that further research under this domain might be conducted through comparative analyses of different SBUs, department and locations for similar universities as well as for the universities of different domain and disciplines. Moreover the research work might further be optimized through analyzing results on bio-graphic characteristics like gender, designation and age level. At last the study might further be optimized t through analyzing the data through using new and applicable moderating variables like role of Human Resource Management Department and Top Management Support etc.

References

Abbad, M. M. (2013). E-banking in Jordan. *Behaviour & Information Technology*, *32*(7), 681-694.

Agustina, J. R., & Coudert, F. (2013). Limits and challenges of the expanding use of covert CCTV in the workplace in Spain–beyond jurisprudential analysis. *Innovation: The European Journal of Social Science Research*, *26*(1-2), 145-160.

Ajzen, I., & Fishbein, M. (2000). Attitudes and the attitude-behavior relation: Reasoned and automatic processes. European review of social psychology, 11(1), 1-33.

Aker, J. C., & Mbiti, I. M. (2010). Mobile phones and economic development in Africa. *Journal of Economic Perspectives*, *24*(3), 207-32.

Alam, S. S., Jani, M. F. M., Omar, N. A., Hossain, T., & Ahsan, N. (2012). Empirical study of theory of reason action (TRA) model for ICT adoption among the Malay based SMEs in Malaysia. *Business Management and Strategy*, *3*(2), 43.

Alder, G. S. (2001). Employee reactions to electronic performance monitoring: A consequence of organizational culture. *The Journal of High Technology Management Research*, *12*(2), 323-342.

Alder, G. S. (2001). Employee reactions to electronic performance monitoring: A consequence of organizational culture. *The Journal of High Technology Management Research*, *12*(2), 323-342.

Arokiasamy, A. R. A. (2013). A study on employee satisfaction perspectives in the hotel industry in Malaysia. *International Journal of Management and Strategy*, *4*(6), 1-17.

Ball, K. (2010). Workplace surveillance: An overview. *Labor History*, *51*(1), 87-106.

Bauman, Z., & Lyon, D. (2013). *Liquid surveillance: A conversation*. John Wiley & Sons.

Bnet, Business dictionary, (2008), "Office Design"

Bonta, J., Wallace-Capretta, S. M., & Rooney, J. (1999). *Electronic monitoring in Canada*. Ottawa: Solicitor General Canada.

Borman, W. C. (2004). The concept of organizational citizenship. *Current directions in psychological science*, *13*(6), 238-241.

Botan, C. (1996). Communication work and electronic surveillance: A model for predicting panoptic effects. *Communications Monographs*, *63*(4), 293-313.

Brad Shuck, M., Rocco, T. S., & Albornoz, C. A. (2011). Exploring employee engagement from the employee perspective: Implications for HRD. *Journal of European Industrial Training*, *35*(4), 300-325.

Bressler, M. S. (2014). Protecting your Company's Intellectual Property Assets From Cyber-Espionage. *Journal of Legal, Ethical & Regulatory Issues*, *17*(2).

Büyük, K., & Uğur, K. (2012). Panopticon's electronic resurrection: Workplace monitoring as an ethical problem. Turkish Journal of Business Ethics, 5(10), 75-88.

Caplan, J. M., Kennedy, L. W., & Petrossian, G. (2011). Police-monitored CCTV cameras in Newark, NJ: A quasi-experimental test of crime deterrence. *Journal of Experimental Criminology*, *7*(3), 255-274.

Cerezo, A. (2013). CCTV and crime displacement: A quasi-experimental evaluation. *European Journal of Criminology*, *10*(2), 222-236.

Creswell, J. W., & Poth, C. N. (2017). *Qualitative inquiry and research design: Choosing among five approaches*. Sage publications.

Dajani, M. A. Z. (2015). The impact of employee engagement on job performance and organisational commitment in the Egyptian banking sector. *Journal of Business and Management Sciences*, *3*(5), 138-147.

Dajani, M. A. Z. (2015). The impact of employee engagement on job performance and organisational commitment in the Egyptian banking sector. *Journal of Business and Management Sciences*, *3*(5), 138-147.

Davenport, T. H. (1993). *Process innovation: reengineering work through information technology*. Harvard Business Press.

Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS quarterly*, 319-340

Dorgan, C. E., Willman, A. J., & Dorgan, C. B. (1994, August). Productivity link to the indoor environment estimated relative to ASHRAE 62-1989. In *Healthy Buildings*.

El-Zeiny, A., & Mahmoud, R. (2013). Interior design of workplace and performance relationship: private sector corporations in Egypt/Rasha Mahmoud Ali El-Zeiny. *Asian Journal Of Environment-Behaviour Studies*, *4*(11), 49-61.

Germain, S., Dumoulin, L., & Douillet, A. C. (2013). A prosperous 'business'. The success of CCTV through the eyes of international literature. *Surveillance & society*, *11*(1/2), 134-147.

Gill, M., & Spriggs, A. (2005). *Assessing the impact of CCTV*(Vol. 292). London: Home Office Research, Development and Statistics Directorate.

Hair, J. F., Ringle, C. M., & Sarstedt, M. (2011). PLS-SEM: Indeed a silver bullet. *Journal of Marketing theory and Practice*, *19*(2), 139-152.

Hameed, A., & Amjad, S. (2009). Impact of office design on employees productivity: a case study of banking organizations of Abbottabad, Pakistan.

Hameed, A., & Amjad, S. (2009). Impact of office design on employees productivity: a case study of banking organizations of Abbottabad, Pakistan.

Hansika, W. A. M., & Amarathunga, P. A. B. H. (2016, December). Impact of Office Design on Employees' Productivity; A Case Study of Banking Organizations of North Western Province in Sri Lanka. In *University of Sri Jayewardenepura, Sri Lanka, 13th International Conference on Business Management (ICBM)*.

Haynes, B. P. (2007). Office productivity: a shift from cost reduction to human contribution. *Facilities*, *25*(11/12), 452-462.

Haynes, B. P. (2008). An evaluation of the impact of the office environment on productivity. *Facilities*, *26*(5/6), 178-195.

Hipes, H., & Marinoni, A. (2005). *Skilled Trades Mentoring. Benefits Compensation Digest*, 42(8), 1-4.

Howard, C. J., Troscianko, T., Gilchrist, I. D., Behera, A., & Hogg, D. C. (2013). Suspiciousness perception in dynamic scenes: a comparison of CCTV operators and novices. *Frontiers in human neuroscience*, *7*, 441.

Indiparambil, J. J. (2017). Electronic Surveillance and the Forgotten Impacts on Organizational Employees in India: A Qualitative and Ethical Review. *Global Journal of Contemporary Research in Accounting, Auditing and Business Ethics*, *3*(1), 543-579.

Jeske, D., & Stamov Roßnagel, C. (2015). Learning capability and performance in later working life: Towards a contextual view. *Education+ Training*, *57*(4), 378-391.

Keeling, B. L., & Kallaus, N. F. (1996). *Administrative office management*. Cengage Learning. "Charter for a Democratic Use of Video- Surveillance" European Forum for Urban Security,2010.

Kline, R. B. (2011). Principles and practice of structural equation. Modeling

Lackney, J. A. (2000). Thirty-Three Educational Design Principles for Schools & Community Learning Centers.

Likert, R. (1932). A technique for the measurement of attitudes. *Archives of psychology, 22* (140), 55

Maiyaki, A. A., & Mohd Mokhtar, S. S. (2011). Determinants of customer behavioural responses: A pilot study. *International business research*, *4*(1), 193-197.

McGuire, D., & McLaren, L. (2009). The impact of physical environment on employee commitment in call centres: The mediating role of employee well-being. *Team Performance Management: An International Journal*, *15*(1/2), 35-48.

McLean, S. J., Worden, R. E., & Kim, M. (2013). Here's looking at you: An evaluation of public CCTV cameras and their effects on crime and disorder. *Criminal justice review*, *38*(3), 303-334.

Miller, A. M. (2005). *Fun in the workplace: Toward an environment-behavior framework relating office design, employee creativity, and job satisfaction* (Doctoral dissertation, University of Florida).

Noah, Y., & Steve, M. (2012). Work environment and job attitude among employees in a Nigerian work organization. *Journal of Sustainable Society*, *1*(2), 36-43.

Park, H. H., Oh, G. S., & Paek, S. Y. (2012). Measuring the crime displacement and diffusion of benefit effects of open-street CCTV in South Korea. *International Journal of Law, Crime and Justice*, *40*(3), 179-191.

Pitarma, R. A., Ramos, J. E., Carvalho, M. G., & Graça, K. (2003, August). Computational and experimental reduced-scale modelling of air-conditioned rooms. In *Eighth International IBPSA Conference Eindhoven, Netherlands August* (pp. 11-14).

Revilla, M. A., Saris, W. E., & Krosnick, J. A. (2014). Choosing the number of categories in agree–disagree

Riaz, A., Shoaib, U., & Sarfraz, M. S. (2017). Workplace Design and Employee's Performance and Health in Software Industry of Pakistan. *International Journal of Advanced Computer Science and Applications*, *8*(5), 542-548.

Saunders, M. N. (2011). *Research methods for business students, 5/e*. Pearson Education India. scales. *Sociological Methods & Research*, *43*(1), 73-97.

Sehgal, S. (2012). Relationship between work environment and productivity. *International journal of engineering research and applications*, *2*(4), 1992-1995.

Sekaran, U., & Bougie, R. (2016). *Research methods for business: A skill building approach*. John Wiley & Sons.

Smith, M. J., & Amick, B. C. (1989). Electronic monitoring at the workplace: Implications for employee control and job stress. *Job control and worker health*, 275-290.

Stanton, J. M., & Weiss, E. M. (2000). Electronic monitoring in their own words: an exploratory study of employees' experiences with new types of surveillance. *Computers in Human Behavior*, *16*(4), 423-440.

Sundstrom, E., Town, J. P., Rice, R. W., Osborn, D. P., & Brill, M. (1994). Office noise, satisfaction, and performance. *Environment and behavior*, *26*(2), 195-222.

Taiwo, A. S. (2010). The influence of work environment on workers productivity: A case of selected oil and gas industry in Lagos, Nigeria. *African Journal of Business Management*, *4*(3), 299-307.

Toftum, J. (2010). Central automatic control or distributed occupant control for better indoor environment quality in the future. *Building and environment*, *45*(1), 23-28. office noise on occupant comfort and performance. In *10th International Conference on Healthy Buildings*.

Waples, S., Gill, M., & Fisher, P. (2009). Does CCTV displace crime?. *Criminology & Criminal Justice*, *9*(2), 207-224.

Welsh, B. C., & Farrington, D. P. (2009). Public area CCTV and crime prevention: an updated systematic review and meta-analysis. *Justice Quarterly*, *26*(4), 716-745.