

# Relationship Between Working Environment and Job Satisfaction Among Quantity Surveyors in Construction Industry in Malaysia

Ananthan Valitherm

Universiti Tunku Abdul Rahman

**Abstract**— Job satisfaction has always been the important emotional response a person experience when working. Job satisfaction is the main reason for high productivity and efficiently when working in an organization. However, job satisfaction usually is affected by working environment factor which is physical, mental and social. This research explores the importance of working environment and its relationship with job satisfaction of quantity surveyor in construction industry. There are 15 working environment factors identified in this research which is believed to have influence on quantity surveyor's job satisfaction. Quantitative analysis has been applied in this research. The data collected are analyzed to formulate strategies to improve job satisfaction from the angle of working environment. This research will be beneficial to Malaysia construction industry so that employers are aware on the problem and the strategies for employee's job satisfaction improvement.

**Keywords**— Construction, Job Satisfaction, Quantity Surveying, Working Environment.

## I. INTRODUCTION

Construction industry is regarded as the most significant contributor to the economy of Malaysia. Quantity Surveyors are viewed as one of the most valuable assets for a construction to ensure the achievement of both financial and non-financial goals of a project. Quantity surveyors are responsible in the management of contractual and financial issues in a construction project. They are the person in charge of managing construction costs and make sure that the project is completed within the predetermined budget.

However, there is a high turnover rate among quantity surveyors and there is a lack of emphasis on the reason of employee turnover especially in quantity surveying firms in Malaysia. Quantity surveyors who are not satisfied with their job are more likely to have lower productivity and commitment and, a higher turnover rate compared to those who are satisfied. Hence, this research will provide a better understanding towards the relationship between the working environment and job satisfaction among quantity surveyors in Malaysia. The main objective of this research is to examine the relationship between job satisfaction and working environment among quantity surveyors in the Malaysian construction industry.

## II. LITERATURE REVIEW

### 2.0 Literature Review

A good work environment or work space can be described as a space for the employers to perform tasks effectively in a healthy and attractive setting. It provides

the employers with the optimum conditions which enables the workers to perform tasks in a higher standard, able to apply their knowledge, skills and competences as well as utilizing resources available to them to complete the objectives. According to Oswald (2012), The intention of providing such attractive work environment is crucial in the recruitment and the retention of the employees to maintain a relatively healthy workforce.

Job satisfaction is regarded as the feeling about the work that an individual has. Employees are an organization's greatest asset for operating the company. If an organization is to perform efficiently, it must first please the employees (Saari & Judge, 2004). According to Salunke (2015), the phrase "working satisfaction" can be explained by the mindset of a worker or by his or her internal condition. From this research, it is founded that social, cultural, individual, organizational and environmental elements are dimension of satisfaction.

### 2.1 Factor of Working Environment influencing job satisfaction

The work environment is critical in an organization and it is viewed that employees are empowered which results in increased morale, a greater enthusiasm for business and a deeper interaction with their clients (Garg & Talwar, 2017). This is often assumed that if they felt appreciated and supported at their job an employee will contribute positively to the business outcome. As it will reduce the attrition rates, a supportive atmosphere can also be beneficial for both employee and organization.

### **2.1.1 Physical Environment**

The first part of the framework is under the category of the physical environment which consist of the comfort level, workspace layout, furniture, sound, safety, lighting and ventilation. These factors are grouped together due to the nature of the factors which will contribute to the physical connection of the employees to the working environment. These factors which will contribute to the overall satisfaction of the employees to their workspace, dictates the performance of the employees. Studies have shown that these factors are the fundamental elements which affects the working experience of the workers.

#### **2.1.1.1 Comfort Level**

The comfort level refers to the employees' level of satisfaction and the willingness to work in their workspace. According to Akinyele S. T. (2010), The level of comfort in the working environment will determine the productivity and the satisfaction of the employees. The performance of the employees will not be close to optimal if the working environment is far from favourable. Nur Damayanti (2019) suggests that a comfortable and attractive working environment is the source of motivation for the employees. A motivated and satisfied worker will generally perform better as compared to the workers who are surrounded by negativity and discomfort.

#### **2.1.1.2 Workspace Layout**

The workspace layout is one of the contributing factors which dictates the productivity of the workers. The layout relates to the design and the utilization of the space given to provide a working environment that will be friendly and effective for the workers who are occupying it. According to Chandrasekar (2011), the behaviour of an employee is heavily impacted by the design of the workspace, subsequently impacting performance level of the employees. Hence, it is important to have a working space to be carefully design to create a layout that will be free of congestion and clutter to provide the optimum environment to boost the performance of the employees. It is also very crucial to ensure that the workplace is free of dangerous element that will potentially cause harm and discomfort to the employees.

#### **2.1.1.3 Furniture**

Furniture defines as the physical element which the employee interacts during work, which include the tables, chairs as well as the shelf which they are required to interact with every moment of their working life. In some cases, these badly chosen or badly placed furniture

could result in unwanted injury to the employees. These injuries may range anywhere from minor injuries to major ones such as spine injuries due to a bad chair design. According to Naharuddin and Sadegi (2013), ergonomic physical workspace is highly recommended to avoid occupational hazard. The implementation of such workplaces shall be able to provide a hazard free work place that will be very beneficial to the occupiers.

#### **2.1.1.4 Sound**

The sound factor can be a difficult topic to discuss due to drastically different preferences of all employees. Generally, music provides a positive feedback whereas noise gives the opposite. However, some music may fall into the same category as noise as well. A noisy environment will create unnecessary distraction and discomfort to the employees, which may cause agitation. According to Ajala (2012), discomfort and distraction caused by noise may lead to reduced productivity and increased stress level in employees. Sound pollution such as renovation or construction noises nearby could not be avoided but predictable noises can be prevented. An employer may place the copier machines or air conditioner compressors further away from the workspace to decrease sound pollution. As mentioned by Khaled Al-Omari (2017), noise created by conversations and PC/printer beeping were considered to be the most irritating by 90 of the respondents.

#### **2.1.1.5 Safety**

Safety of a workplace is important for the well-being of the employees. If workers are working in an unsafe environment, accidents could happen which may be very impactful to the company. According to Chandrasekar (2011), the working environment for the majority of the industry has insufficient safety measures and may affect performance levels. Also mentioned by Chandrasekar (2011), poor layout and overcrowding may lead to unwanted accidents such as knocking onto objects or tripping. Hence, the before mentioned workspace layout factor is also directly linked to the safety of the employees.

#### **2.1.1.6 Lighting**

Lighting can be crucial in determining the employees' performance, as suggested by Chandrasekar (2011), discomfort can be caused by poorly lit working environments. Employees are more likely to feel stressed and unable to perform their task if the working environment is poorly lit, causing the workers difficulties in visual feedback. As mentioned by Oswald (2012), sufficient lighting may increase the alertness and focus of an employee, subsequently affecting

productivity. However, as shown in the report by Ajala (2012), natural lighting can also contribute toward the performance of the employees, showing an increase of up to 18% increase in productivity with the help of day light.

#### **2.1.1.7 Ventilation**

Ventilation is one of the most important environmental factors which directly affects the temperature of one's workplace. It plays a vital role in determining the comfort level of a work place (Chandrasekar, 2011). Badly planned ventilation may cause uneven air-conditioning distribution and create spots that are colder than others or vice versa. A warm and humid workplace may cause major discomfort. Similarly, a cold and dry workplace may also cause stiffness, ultimately affecting worker's performance. According to Paul et al (2005), the most preferable temperature for a workplace is 23.5°C and any temperature above 24.0 °C may cause discomfort to the employees.

#### **2.1.2 Mental Environment**

Mental environment refers to the behaviours and emotions that affects an employee during work. These may include fatigue, boredom or the attitude of peers and superiors. These factors contribute to the mood of the employees which will greatly affect performance. Employers should understand these factors and try to implement changes in the working environment to provide a positive environment for the workers in order to obtain the greatest yield for the organisation. Workers will under-perform while under mental stress or in a negative environment. Given enough attention to details in the mental environment of the work place is just as important to the physical workspace environment as the wellbeing of an employee dictates the quality of the product.

##### **2.1.2.1 Fatigue**

Fatigue refers to the physical or mental limitation of a human's body in performing a task. A worker can be physically fatigue through extensive physical activities such as carrying heavy objects. A worker may experience mental fatigue when dealing with computer screens for a long period of time.

According to Rajni Devi (2020), break time is another method in creating a healthy working environment for the workers. A few minutes of break time away from the chairs and computers may help relieve muscle fatigue such as eye strain and neck muscle ache. It can be crucial to restore the worker's concentration and boost performance.

##### **2.1.2.2 Attitude & Behavior of Supervisor & Colleagues**

The attitude and the behaviour of the supervisor or peers can have some huge impact towards the employee's willingness to work in an organisation. According to Zoghbi de Lara (2012), liking for the supervisor has a distinct impact on emotional feelings at work. When a supervisor portrays a positive attitude towards the workers, workers are more likely to behave in a similar fashion. As suggested by Rajni Devi (2020), the foundation of a healthy working environment is a supportive workspace culture.

##### **2.1.2.3 Monotony**

According to the European Working Conditions Survey in 2005, averagely 45% of the workers in Europe had reported monotony at work. Monotony refers to the lack of variety and interest in a job. Monotony can be resulted from tedious repetition of work given by the superior officers to the workers. According to Samuel (1995), a study funded by the National Institute of Occupational Safety and Health had shown that workers in occupations with repetitive work had higher than average perceived boredom scores. The workers also expressed major job dissatisfaction and underutilization of skills.

##### **2.1.2.4 Working Hour**

Working hour relates to the time of the day which the employee is required to do his tasks. Long hours of continuous working can bring negative impacts to an employee, which includes fatigue as discussed before. An employer should include several breaktimes such as lunch time and tea time to help relieve the stress of the employees. An employer should not expect an employee to work non-stop for the benefits of the company as it will affect the workers' health and might bring negative effect to the organisation instead. According to PWC (2008), cost reductions up to 50 percent had been acquired by implementing initiatives that prioritises employee health and well-being.

##### **2.1.3 Social Environment**

The social environment of a workplace refers to the social activity of employees in the workplace. These could include verbal communication with peers, supervisors or non-verbal communications through emails and papers. Quality communication can boost the morale of the workplace, subsequently increasing the performance of the organisation. Positive communications can come from the support from supervisors and peers as well as healthy communication among colleagues.

### 2.1.3.1 Communication

Communication is very important as it is related closely with performance. Interactions between employees are one of the factors which will affect the employees' mood. Positive interactions such as friendly greetings and compliments are one of the many ways the workers can bond together. According to Naharuddin and Sadegi (2013), good behaviour may have beneficial effects on employee morale. Other than interactions with peers, necessary compliments from a supervisor may also impact the employee's performance. Mentioned by Chandrasekar (2011), admiration of work and gratitude towards the work done by an employee may affect the performance in a healthy way.

### 2.1.3.2 Information Technology

Before information technology skyrocketed and became one of the most important tools to improve productivity, the world had not seen much connection between information technology and productivity. According to Sabherwal & Jeyaraj (2015), The time period was best known as the paradox of productivity. Nowadays, information technology had become the quintessential tool in aiding automation and increase productivity (Mithas, Tafti, Bardhan & Goh, 2012).

### 2.1.3.3 Supervisor Support

According to Naharuddin and Sadegi (2013), The key person in forging good relationship with employees to promote teamwork is the supervisor. A supervisor who often monitor and understand their employees will have a greater connection with their employees. Providing assistance towards and employee and frequently conduct informal meetings will help increasing the mutual understanding among them. Healthy interactions between the supervisors and employees will result to a good relationship, subsequently contribute towards better performance.

### 2.1.3.4 Job Aid

Job aid refers to a written tool or document which serves as a guidance to employees, where the workers are able to understand and execute the task themselves (Naharuddin and Sadegi, 2013). These aids may come in the form of instruction pamphlets where it explains the procedure step by step clearly to the workers. As mentioned by Chandrasekar (2011), common error and mistakes can be decreased by providing precise and concise instructions to guide the employees.

## III. RESEARCH METHOD

In this research, quantitative research is adopted. Numerical Data and statistics are frequently associated

with quantitative research. Therefore, the questionnaire had been designed into four major section which are section A, section B, section C and section D. In the questionnaire, closed-ended question will be used throughout the whole research. This is because closed-ended questionnaires are able to assist respondents to answer the question easily and quickly and allow the data collected to be analyzed much more efficiently.

In section A, background information such as age, gender, year of working experience, and type of construction company of target respondents will be asked. Background information of respondent helps to ensure the characteristics of respondent are suitable for this research. There will be a list of choices provided in the question and the respondents are requested to select the most suitable answer to fill in.

Moreover, Section B is about the type of working environment factor that affecting job satisfaction of quantity surveyor in construction industry. In section B, the type of working environment factors will only be focused on physical environment. Besides from Section B, there are Section C and Section D while both of the sections are also about the working environment factor. Section C specifically, focused only on mental working environment factors while Section D are only focused on social working environment. The data collected from respondents in these sections will assist in answering the last objective of this research study. For this research, Statistical Package for Social Science (SPSS) will be used to analyzed the data obtained from the questionnaires. Descriptive analysis and relative importance index were discussed respectively.

## IV. DATA ANALYSIS APPROACH

Through SPSS programme, a total of 161 set of questionnaires data are able to be determine their reliability Based on table 3.0, question B8.1 "I can work better with good workplace comfort level" has the highest mean of 4.1801. It shows that respondents strongly agree with "I can work better with good workplace comfort level". This is proven by NurDamayanti (2019) that a comfortable and attractive working environment is the source of motivation for the employees. A motivated and satisfied worker will generally perform better as compared to the workers who are surrounded by negativity and discomfort.

The second highest mean of 4.1491 is B8.2 . It shows that respondents strongly agree with "I am able to improve my mood with good workspace layout". It could be explained by Chandrasekar (2011), the behaviour of an employee is heavily impacted by the

design of the workspace, subsequently impacting performance level of the employees. A research by Gensler (2006) also show the research result that 90% of

the workers believes that better working environment brings better performance.

**Table 3:** Descriptive Test Result for Physical Environment

| Question No | Factor Statement   | Mean   | Mean Ranking |
|-------------|--|--------|--------------|
| B8.1        | I can work better with good workplace comfort level                                  | 4.1801 | 1            |
| B8.2        | I am able to improve my mood with good workspace layout                              | 4.1491 | 2            |
| B8.3        | I feel safe when using good quality furniture at workplace                           | 3.8758 | 5            |
| B8.4        | I feel discomfort and distraction with noisy environment                             | 3.9130 | 4            |
| B8.5        | I am more willing to work with good workplace safety level                           | 4.0994 | 3            |
| B8.6        | I am able to increase my alertness and focus with sufficient workplace’s lighting    | 3.8261 | 6            |
| B8.7        | I feel more comfortable with proper ventilation and preferable workplace temperature | 3.7876 | 7            |

Based on table 3.1, question C9.4 “I am unsatisfied with long hour of working hour” has the highest mean of 3.9752. Long hours of continuous working can bring negative impacts to an employee, which includes fatigue as discussed before.

The second highest mean of 3.8696 is C9.1 “I feel physically or mentally fatigue after long hour of working”. In this research, the respondent in may experience mental fatigue when dealing with computer screens for a long period of time.

According to Bevan (2010), long working hours recorded had seen life balance being harder to achieve. This suggests that long working hours which hinders the worker’s daily life will create unnecessary stress both physically and psychologically.

According to Akerstedt et al (2002), fatigue due to lack of quality sleep is a risk factor in some accidents at work. A worker may experience fatigue when they are sleep deprived, subsequently increasing the risk of making mistakes which could potentially be costly.

**Table 3.1:** Descriptive Test Result for Mental Environment

| Question No | Factor Statement   | Mean   |
|-------------|--|--------|
| B8.1        | I can work better with good workplace comfort level                                  | 4.1801 |
| B8.2        | I am able to improve my mood with good workspace layout                              | 4.1491 |
| B8.3        | I feel safe when using good quality furniture at workplace                           | 3.8758 |
| B8.4        | I feel discomfort and distraction with noisy environment                             | 3.9130 |
| B8.5        | I am more willing to work with good workplace safety level                           | 4.0994 |
| B8.6        | I am able to increase my alertness and focus with sufficient workplace’s lighting    | 3.8261 |
| B8.7        | I feel more comfortable with proper ventilation and preferable workplace temperature | 3.7876 |

Based on table 3.2, question D10.4 “I am given tools or documents as job aid guidance to execute task” has the highest mean of 3.8634. Job aid serves as a guidance to employees, where the workers are able to understand and execute the task themselves (Naharuddin and Sadegi, 2013). They also mentioned that employees’ performance level can be increased through external,

intrinsic and extrinsic support. The second highest mean of 3.8261 is D10.1 “I am able to communicate effectively with other unit or department”. Positive interactions such as friendly greetings and compliments are one of the many ways the workers can bond together. As suggested by Naharuddin and Sadegi (2013), positive interaction may have positive impacts on the

productivity of the workers. Hence, open concept offices are far more superior in providing the opportunity for

communication as opposed to the traditional partitioned offices.

**Table 3.2: Descriptive Test Result for Social Environment**

| Question No | Factor Statement   | Mean   |
|-------------|--|--------|
| D10.1       | I am able to communicate effectively with another unit or department | 3.8261 |
| D10.2       | I am provided with newest technology or tools to work on             | 3.6584 |
| D10.3       | My supervisors are supportive and friendly                           | 3.8075 |
| D10.4       | I am given tools or documents as job aid guidance to execute task    | 3.8634 |

**V. CONCLUSION**

In this research there are three different aspect of working environment which are physical, mental and social environment. In the physical aspect of working environment, the top 3 factors were “I can work better with good workplace comfort level”, “I am able to improve my mood with good workspace layout”and “I am more willing to work with good workplace safety level”. It is obvious that the factors are mainly related to personal place or workspace. As a quantity surveyor, it is important to have personal workplace place separated slightly apart from each other instead of sharing. This is because quantity surveyors frequently handle on private and confidential matter such as tendering and interim submission related to money, therefore privacy in workplace is preferred. Since a quantity surveyor deals with financial and contractual issues, any vital information leaked to unwanted parties could result in a great loss to the company in terms of reputation and trust. As for safety, sometimes quantity surveyors are required to be on site evaluation for interim submission. They are not able to feel safe to work if the workplace does not have safety and health rules which may cause dissatisfaction. A badly maintained site could potentially harm or create unwanted fear to quantity surveyors who may need to be present on site regularly, may affect the mental state of the quantity surveyor, potentially decreasing performance and quality of work.

As for mental aspect of working environment, the top 3 factors are “I am unsatisfied with long hour of working hour”, “I feel physically or mentally fatigue after long hour of working “and “I feel bored being given the same task throughout my job period”. These not only apply on quantity surveyor but also to other occupation as well as employees are dissatisfied with repetitive work which makes them feel underutilization of their skills. Companies are encouraged to allow their employees to work on different task alternatively as it also helps the employees to learn more which nevertheless will benefit

the company in the end. The employers are also advised to increase break time or shorten working hour if possible, to ensure employees are more productivity. Companies may also organize group activities or company vacations for the employees to promote a healthy work-life balance and to provide sufficient rest for the employees, while enhancing the relationship among employees all together.

In social aspect of working environment, the top 3 factors are “I am given tools or documents as job aid guidance to execute task”, “I am able to communicate effectively with other unit or department “and “My supervisor are supportive and friendly”. Especially for fresh graduate or junior level of quantity surveyor, it is difficult for them cope up with their job and office work culture without any guidance from related document or support from supervisor. It would cost them lots of precious time trying to figure out the solution or method for the job given. It will cause them to be unmotivated and frustrated and ended up unsatisfied with their job. It is time for the company to realize the benefit of spending little extra time in guiding their new employees even though it may look insignificant. Good and effective communication among employees are also beneficial towards increasing the productivity of the employees. Supervisors with regular meetings and friendly chatters with employees increases the positivity among the workforce which could potentially increase overall productivity.

**REFERENCES**

[1] AbuAlRub, R. et al. (2016) ‘Exploring the relationship between work environment, job satisfaction, and intent to stay of Jordanian nurses in underserved areas’, Applied Nursing Research. Elsevier Inc., 31, pp. 19–23. doi: 10.1016/j.apnr.2015.11.014.

[2] Ajala, E. M. (2012). The Influence of Workplace Environment on Workers’ Welfare, Performance

- and Productivity. The African Symposium: An Online Journal of the African Educational Research Network, 12(1), 141–149. <https://doi.org/ISSN#TX6-342-323>
- [3] Åkerstedt, T. et al. (2002) ‘Work organisation and unintentional sleep: Results from the WOLF study’, *Occupational and Environmental Medicine*, 59(9), pp. 595–600. doi: 10.1136/oem.59.9.595.
- [4] Al-Omari, K. and Okasheh, H. (2017) ‘The influence of work environment on job performance: A case study of engineering company in Jordan’, *International Journal of Applied Engineering Research*, 12(24), pp. 15544–15550.
- [5] Bayarçelik, E. B. and Findikli, M. A. (2016) ‘The Mediating Effect of Job Satisfaction on the Relation Between Organizational Justice Perception and Intention to Leave’, *Procedia - Social and Behavioral Sciences. The Author(s)*, 235(October), pp. 403–411. doi: 10.1016/j.sbspro.2016.11.050.
- [6] Bevan, S. (2010) ‘The Business Case for Employee Health and Wellbeing’, *Workfoundationorg*, (April), p. 36. Available at: [http://workfoundation.org/assets/docs/publications/245\\_iip270410.pdf](http://workfoundation.org/assets/docs/publications/245_iip270410.pdf).
- [7] Chandrasekar, K. (2011) ‘Workplace environment and its impact on organisational performance in public sector organisations’, *International Journal of Enterprise Computing and Business Systems*, 1(1), pp. 1–19.
- [8] Chua, Y.P., (2016). *Mastering research methods*. 2nd ed. Shah Alam: McGrawHill Education
- [9] Damayanti, N., Yahya, K. K. and Yean, T. F. (2019) ‘Work Values, Emotional Intelligence, Work Environment and Career Commitment among Generation Y: A Proposed Framework’, *Sains Humanika*, 11(2–2), pp. 53–58. doi: 10.11113/sh.v11n2-2.1655.
- [10] Devi, R. (2020) ‘The Importance of a Healthy Working Environment in Business’, *International Journal for Research in Applied Science and Engineering Technology*, 8(1), pp. 262–264. doi: 10.22214/ijraset.2020.1048.
- [11] Dutra, H. S., Cimiotti, J. P. and Guirardello, E. de B. (2018) ‘Nurse work environment and job-related outcomes in Brazilian hospitals’, *Applied Nursing Research. Elsevier*, 41(April), pp. 68–72. doi: 10.1016/j.apnr.2018.04.002.
- [12] Fanggalda, R. E. et al. (2016) ‘Effect of a Spirituality Workplace on Organizational Commitment and Job Satisfaction (Study on the Lecturer of Private Universities in the Kupang City -Indonesia)’, *Procedia - Social and Behavioral Sciences*, 219(December 2015), pp. 639–646. doi: 10.1016/j.sbspro.2016.05.045.
- [13] Farrugia, B. (2019) ‘WASP (write a scientific paper): Sampling in qualitative research’, *Early Human Development*, 133, pp. 69–71. doi: 10.1016/j.earlhumdev.2019.03.016.
- [14] Frerdrick, siame L. (2015) ‘Assessment on factors influencing job satisfaction among employees at tanroads a case of morogoro municipality’.
- [15] Gail M. Sullivan and Anthony R. Artino Jr (2013) *Analyzing and Interpreting Data From Likert-Type Scales. Journal of Graduate Medical Education: December 2013, Vol. 5, No. 4, pp. 541-542.*
- [16] Harmon, R. B. et al. (2018) ‘Implementing healthy work environment standards in an academic workplace: An update’, *Journal of Professional Nursing. Elsevier Inc.*, 34(1), p. 20. doi: 10.1016/j.profnurs.2017.06.001.
- [17] Hoboubi, N. et al. (2017) ‘The Impact of Job Stress and Job Satisfaction on Workforce Productivity in an Iranian Petrochemical Industry’, *Safety and Health at Work. Elsevier Ltd*, 8(1), pp. 67–71. doi: 10.1016/j.shaw.2016.07.002.
- [18] Hoendervanger, J. G. et al. (2019) ‘Perceived fit in activity-based work environments and its impact on satisfaction and performance’, *Journal of Environmental Psychology. Elsevier Ltd*, 65(August), p. 101339. doi: 10.1016/j.jenvp.2019.101339.
- [19] Innappan, T. (2017) ‘Working Environment and Its Influence’, *Internasional Journal of Business and Economic*, 1(2), pp. 1–20.
- [20] Ismayilova, K. and Klassen, R. M. (2019) ‘Research and teaching self-efficacy of university faculty: Relations with job satisfaction’, *International Journal of Educational Research*, 98(September), pp. 55–66. doi: 10.1016/j.ijer.2019.08.012.
- [21] Jaafar, M., Yazrin, P., Yaziz, M., Nuruddin, A.R., & Jalali, A. (2014). How women quantity surveyors perceive job satisfaction and turnover intention.
- [22] Jensen, K. W., Liu, Y. and Schøtt, T. (2017) ‘Entrepreneurs innovation bringing job satisfaction, work-family balance, and life satisfaction: In China and around the world’, *International Journal of Innovation Studies. Elsevier Ltd*, 1(4), pp. 193–206. doi: 10.1016/j.ijis.2017.11.002.
- [23] Jiang, H. and Shen, H. (2018) ‘Supportive organizational environment, work-life enrichment, trust and turnover intention: A national survey of PRSA membership’, *Public Relations Review. Elsevier*, 44(5), pp. 681–689. doi: 10.1016/j.pubrev.2018.08.007.
- [24] Jianguo, W. and Frimpong, S. K. (2011) ‘Research on Job Dissatisfaction and Its Impact on Private Sector Investment in Ghana’, *Proceedings of the*

- 8th International Conference on Innovation and Management, pp. 1116–1119.
- [25] Khamisa, N. et al. (2017) 'Effect of personal and work stress on burnout, job satisfaction and general health of hospital nurses in South Africa', *Health SA Gesondheid*. Elsevier Ltd, 22, pp. 252–258. doi: 10.1016/j.hsag.2016.10.001.
- [26] Locke, E. A. (1969) 'What is job satisfaction?', *Organizational Behavior and Human Performance*, 4(4), pp. 309–336. doi: 10.1016/0030-5073(69)90013-0.
- [27] Locke, E.A. (1976). The nature and causes of job satisfaction. M.D. Dunnette (Ed.), *Handbook of Industrial and Organizational Psychology*. Chicago, IL: Rand McNally, pp. 1297-1343.
- [28] Madelon L. M. van Hooff & Edwin A. J. van Hooff (2016) Work-related boredom and depressed mood from a daily perspective: the moderating roles of work centrality and need satisfaction, *Work & Stress*, 30:3, 209-227, DOI: 10.1080/02678373.2016.1206151
- [29] Melamed, Samuel & Phd, Irit & Luz, Jair & Green, Manfred. (1995). Objective and Subjective Work Monotony: Effects on Job Satisfaction, Psychological Distress, and Absenteeism in Blue-Collar Workers. *The Journal of applied psychology*. 80. 29-42. 10.1037/0021-9010.80.4.538.
- [30] Melville, N., Kraemer, K., & Gurbaxani, V. (2004). Review: Information Technology and Organizational Performance: An Integrative Model of It Business Value. *MIS Quarterly*, 28(2), 283–322. <https://doi.org/10.2307/25148636>
- [31] Menéndez, C. et al. (2019) 'Individual, business-related, and work environment factors associated with driving tired among taxi drivers in two metropolitan U.S. cities', *Journal of Safety Research*. National Safety Council, 70, pp. 71–77. doi: 10.1016/j.jsr.2019.05.001
- [32] Mike, A. (2010). Visual workplace: How you see performance in the planet and in the office. *International Journal of Financial Trade*, 11(3), 250-260.
- [33] Oswald, A. (2012). The Effect of Working Environment on Workers Performance: The Case of Reproductive and Child Health Care Providers in Tarime District. Unpublished. Muhimbili University of Health and Allied Sciences.
- [34] Owen, D. C. et al. (2018) 'Engagement, empowerment, and job satisfaction before implementing an academic model of shared governance', *Applied Nursing Research*. Elsevier, 41(February), pp. 29–35. doi: 10.1016/j.apnr.2018.02.001.
- [35] Pagán-Castaño, E., Maseda-Moreno, A. and Santos-Rojo, C. (2019) 'Wellbeing in work environments', *Journal of Business Research*. Elsevier, (December), pp. 0–1. doi: 10.1016/j.jbusres.2019.12.007.
- [36] Park, Y. et al. (2016) 'Predictors of job satisfaction among individuals with disabilities: An analysis of South Korea's National Survey of employment for the disabled', *Research in Developmental Disabilities*. Elsevier Ltd., 53–54, pp. 198–212. doi: 10.1016/j.ridd.2016.02.009.
- [37] Raziq, A. and Maulabakhsh, R. (2015) 'Impact of Working Environment on Job Satisfaction', *Procedia Economics and Finance*. Elsevier BV, 23, pp. 717–725. doi: 10.1016/s2212-5671(15)00524-9.
- [38] R. et al. (2016) 'Exploring the relationship between work environment, job satisfaction, and intent to stay of Jordanian nurses in underserved areas', *Applied Nursing Research*. Elsevier Inc., 31, pp. 19–23. doi: 10.1016/j.apnr.2015.11.014.
- [39] Sabherwal, R., & Jeyaraj, A. (2015). Information Technology Impacts on Firm Performance: an Extension of Kohli and Devaraj (2003). *MIS Quarterly*, 39(4), 809–836. Retrieved from <http://search.ebscohost.com/login.aspx?direct=true&db=iih&AN=110877516&lang=pt-br&site=ehost-live&authtype=ip,cookie,uid>
- [41] Samarasinghe, J.S. (2016). A study of factors affecting job satisfaction of quantity surveyors in Sri Lankan construction industry. Unpublished B.Sc. Quantity Surveying & Construction Management Dissertation, Sheffield Hallam University, U.K. DOI: 10.13140/RG.2.1.3094.9363
- [42] Siame, F. (2015). Assessment of factors influencing job satisfaction among employee at TANROADS; Case of morogoro. Unpublished M.sc Dissertation, Mzumbe University, Morogoro, Tanzania
- [43] Smith, R. H. et al. (2012) 'INFORMATION TECHNOLOGY AND FIRM PROFITABILITY: MECHANISMS AND EMPIRICAL EVIDENCE I Sunil Mithas Theoretical Framework Background', *El Sawy and Pavlou*, 36(1), pp. 205–224. Available at: <http://www.misq.org>.
- [44] Son, J. and Ok, C. (2019) 'Hangover follows extroverts: Extraversion as a moderator in the curvilinear relationship between newcomers' organizational tenure and job satisfaction', *Journal of Vocational Behavior*. Elsevier, 110(January 2017), pp. 72–88. doi: 10.1016/j.jvb.2018.11.002.
- [45] Strömberg, C. et al. (2017) 'Estimating the Effect and Economic Impact of Absenteeism, Presenteeism, and Work Environment-Related



- Problems on Reductions in Productivity from a Managerial Perspective', *Value in Health*. Elsevier Inc., 20(8), pp. 1058–1064. doi: 10.1016/j.jval.2017.05.008.AbuAlRub,
- [46] Suárez, M., Asenjo, M. and Sánchez, M. (2017) 'Job satisfaction among emergency department staff', *Australasian Emergency Nursing Journal*. College of Emergency Nursing Australasia, 20(1), pp. 31–36. doi: 10.1016/j.aenj.2016.09.003.
- [47] 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), pp. 299–307.
- [48] Tarcan, M. et al. (2017) 'An analysis of the relationship between burnout, socio-demographic and workplace factors and job satisfaction among emergency department health professionals', *Applied Nursing Research*, 34, pp. 40–47. doi: 10.1016/j.apnr.2017.02.011.
- [49] Törnroos, M., Jokela, M. and Hakulinen, C. (2019) 'The relationship between personality and job satisfaction across occupations', *Personality and Individual Differences*. Elsevier, 145(March), pp. 82–88. doi: 10.1016/j.paid.2019.03.027.
- [50] Uhrenholdt Madsen, C. and Boch Waldorff, S. (2019) 'Between advocacy, compliance and commitment: A multilevel analysis of institutional logics in work environment management', *Scandinavian Journal of Management*. Elsevier, 35(1), pp. 12–25. doi: 10.1016/j.scaman.2018.11.002.
- [51] Wagner, M. et al. (2020) 'A validation study revealed differences in design and performance of MEDLINE search filters for qualitative research', *Journal of Clinical Epidemiology*, 120, pp. 17–24. doi: 10.1016/j.jclinepi.2019.12.008.
- [52] Wang, W. et al. (2020) 'Spillover of workplace IT satisfaction onto job satisfaction: The roles of job fit and professional fit', *International Journal of Information Management*. Elsevier, 50(September 2019), pp. 341–352. doi: 10.1016/j.ijinfomgt.2019.08.011.
- [53] Wei, H. et al. (2018) 'The state of the science of nurse work environments in the United States: A systematic review', *International Journal of Nursing Sciences*. Elsevier Ltd, 5(3), pp. 287–300. doi: 10.1016/j.ijnss.2018.04.010.
- [54] Weiss, H. M. (2002) 'Deconstructing job satisfaction. Separating evaluations, beliefs and affective experiences', *Human Resource Management Review*, 12(2), pp. 173–194. doi: 10.1016/S1053-4822(02)00045-1.
- [55] Weiss, H. M. and Merlo, K. L. (2015) 'Job Satisfaction', in *International Encyclopedia of the Social & Behavioral Sciences: Second Edition*. Elsevier Inc., pp. 833–838. doi: 10.1016/B978-0-08-097086-8.22029-1.
- [56] Zhang, L. feng et al. (2014) 'The association of Chinese hospital work environment with nurse burnout, job satisfaction, and intention to leave', *Nursing Outlook*. Elsevier Ltd, 62(2), pp. 128–137. doi: 10.1016/j.outlook.2013.10.010.
- [57] Zhou, Y. et al. (2017) 'Is the grass greener on the other side? A longitudinal study of the impact of employer change and occupational change on job satisfaction', *Journal of Vocational Behavior*. Elsevier Inc., 99, pp. 66–78. doi: 10.1016/j.jvb.2016.11.005.