

FACTORS AFFECTING EMPLOYEE PERFORMANCE: AN EMPIRICAL STUDY OF JINHUA EDUCATION INVESTMENT DEVELOPMENT CO., LTD.

Jie ZHOU¹ and Poompichai TARNDHAMRONG¹

¹ Faculty of Business Administration, Thongsook College, Thailand;
zhoujie_0724@163.com (J. Z.); dd2.vv2@gmail.com (P. T.)

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ABSTRACT

The most important functions of management is to ensure that employee work is more satisfying and to reconcile employee motivation with organizational goals. With the diversity of current jobs, this is a dynamic challenge. This research aims to study the motivating and hygiene factors that affecting employee performance of Jinhua Education Investment Development Co., Ltd. The samples were of 226 employees in Jinhua Education Investment Development Co., Ltd. The questionnaire was administered to collect the data, adopting purposive and convenient sampling methods. Multiple regression for data analysis. The result indicated that motivation factors and hygiene factors affecting employee performance statistically significantly at the level of 0.05, which has a forecasting power of 93.7% and 84.9%, respectively.

Keywords: Factors, Motivation, Employee, Performance

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INTRODUCTION

Organizations face challenges while they live in a dynamic and competitive environment. The effectiveness of a business constitutes its ability to perform a function with optimal levels of input and output. Improving organizational effectiveness is a sober concern for any organization as a matter of existence. This has to be achieved through implementation of important organizational effectiveness factors. Enhancing organizational effectiveness is the key for success in any business and consequently executives are expected to increase the efficiency of their employees. (Tahsildari & Shahnaei, 2015)

Employees are one of the most important assets of an organization as they contribute to its growth and success. The era characterized by rapid and continuous change, knowledge capital must be retained in order for organizations to be productive and responsive to the needs of their stakeholders. All companies retain and develop their employees. They need employees who are well trained and motivated so that they are committed to their work for the development of the companies. The effective application of some human resources management practices enables employees to be committed to their work for good performance. Implementation of appropriate HRM practices for employees will promote effectiveness and employees play a strategic role in improving ratings in key areas. (Pang & Lu (2018).

Jinhua Education Investment Development Co., Ltd. was established in December 2014. It is a wholly-owned subsidiary of Jinhua Social Development Group Co., Ltd. (a state-owned enterprise directly under the municipal government), with a registered capital of 50 million yuan. Effectiveness in performing tasks and providing services, that is, effective performance in performing tasks or providing services. It is a success that results from the performance according to the plan or the goals of the organization that have been set. or expected Modern concepts in organizing work will begin with setting the point of success, that is, in planning the event, at the beginning of the event, there will be a goal or objective that what the success we want is what it means. to one operation Somehow then and it appears that the effect has occurred. Or output that occurs at any level, which is the goal or objective that is defined in the use of resources. or how much the import factor If using the least resources or inputs in any project or task and the results are consistent with the objectives or goals set. Implementation of the project will be most effective. This is done by comparing each project that can be implemented and achieve the same objectives or goals. On the other hand, any project, although able to achieve its objectives or the goals set for the same, but using resources or factors imported more than any other project The project will not be the most effective project.

However, problems in the past performance still encountered problems and obstacles. In many aspects of management, it was found that Jinhua Education Investment Development Co., Ltd. personnel had problems in their ability to work. Personnel have insufficient knowledge of the duties that are increasing, causing operations to not achieve the goals set. Problems in working as a team Lack of promotion of collective thinking Lack of cooperation in working together Lack of support exchange working environment Lack of organization of the operational location suitable for the operation Lack of creating an atmosphere for working together and lack of tools for safe operations and welfare in work Lack of adequate welfare, resulting in inefficient work of personnel. as effective as it should be

Therefore, for the aforementioned reasons, the researcher is interested in studying the operational effectiveness of personnel in Jinhua Education Investment Development Co., Ltd. in order to present the results of the study to executives as a guideline for improving and developing operational effectiveness. work of Jinhua Education Investment Development Co., Ltd. personnel for maximum effectiveness.

LITERATURE REVIEWS

Herzberg's Two Factor theory

Herzberg (1959) present Two-Factor Theory has two factors or elements that correlate with satisfaction and dissatisfaction with performance including Motivation Factors (Achievement, Recognition, Responsibility, Work itself, and Advancement) and Hygiene Factors (Company Policy and Administration, Relationship with supervisor, Working Conditions, Salary and benefits, and Job Security). The two-factor theory says that there are some factors known as motivating factors that cause job satisfaction, and some other separated factors called hygiene factors which cause dissatisfaction. He stated further that the opposite of satisfaction is not dissatisfaction, but rather, no satisfaction. According to Herzberg (1987) the job satisfiers deal with the factors involved in doing the job, whereas the job dissatisfiers deal with the factors which define the job context. He categorized motivating factors (satisfiers) as achievement, recognition, work itself, advancement and growth whereas hygiene factors (dissatisfiers) also include company policy, supervision, working conditions, status and salary.

The concept of employee performance

Peterson & Plowman (1953) gave three dimensions of employee performance including (1) quality refers to producers and users get value for money and are satisfied, and results of work is accurate, standardized, and fast. (2) Quantity refers to the work that occurs must be in accordance with the requirements expected of the agency, with the practicable output being the appropriate amount as specified in specified in the work plan or target. And (3) time refers to the time used in the operation must be in a manner that is collect according to the principles suitable for work and modern Techniques have been developed. Campbell and Wiernik in 2015 presented that the achievement of the organizational goals must depend on the behavior of employees in the organization that is related to the organization's goals and this behavior must be used as a basis for measuring the involvement of other employees in the organization.

From review literature and relevant research found that motivation can have a negative impact on the employee or a positive impact depending on the employer's needs. Motivation is an important factor in determining employee satisfaction and performance. Employee motivation goes beyond financial rewards, which include both internal and external rewards. Organizations need to motivate employees individually, not as a group, because needs vary from employee to employee. The authors examined Frederick Herzberg's two-factor theory (motivation-hygiene). This includes motivational factors and hygienic factors. Each of these types of motivational strategies has its consequences when practiced. Therefore, managers must examine the needs of the employees before choosing which form or type to practice. In general, employee motivation tends to increase. So the conceptual framework can be drawn as shown in Figure 1.

Conceptual frameworks

Independent Variable

Dependent Variable

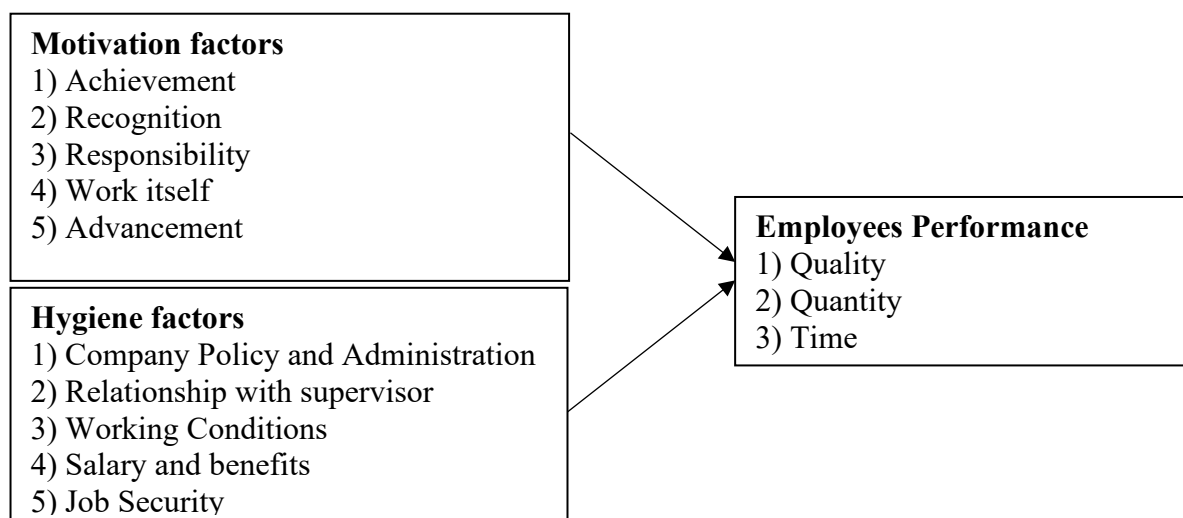


Figure 1 Conceptual Framework

Sources: Herzberg, F (1959). and Peterson & Plowman (1953)

RESEARCH METHODOLOGY

In response to examining factors affecting employee performance: An Empirical study of Jinhua Education Investment Development Co., Ltd., the study was then designed to adopt a quantitative research approach. The population in this study consisted of 520 employees in Jinhua Education Investment Development Co., Ltd. Due to the studied sample size calculation by Yamane (1973), 226 employees working in Jinhua Education Investment Development Co., Ltd. were selected at a confidence level of 95%. A sampling method focused on using purposive and convenience sampling techniques. A questionnaire has three parts. For the first part of the questionnaires, it includes the demography such gender, age, education and average monthly income. Then, the second to the third parts are on a Likert scale with 1-5 rating-scales from 1 meaning "extremely disagreeable" to 5 meaning "extremely agreeable" to study employees' motivation (motivation and hygiene factors), and employee performance, respectively.

Before the instrument was applied for data collection, the item-objective congruence (IOC) and reliability test of the questionnaire through Cronbach's alpha were systematically conducted. From the investigation, the result revealed that the IOC was equal to 1.00 and Cronbach's alpha was obtained at 0.844. To get the data, this study sent questionnaires to employees at Jinhua Education Investment Development Co., Ltd. Regarding data analysis, the descriptive statistics, including frequency, percentage, mean, standard deviation and multiple regression. All the details are portrayed in the following section.

RESEARCH RESULTS

The results of the general analysis of the respondents found that the majority of respondents were female (55.31%), aged 31-40 years (35.84%), had a Bachelor's degree (48.23%), and had an average monthly income of 2,001 - 4,000 yuan (38.94%).

Table 1 Results of hypothesis tests on employee performance

Motivation factors	b	Std. Error	B	t	p-value
Constant	-0.010	0.072		-0.134	0.893
- Achievement	0.097	0.028	0.093	3.459	0.001*
- Recognition	0.419	0.034	0.425	12.189	0.000*
- Responsibility	0.128	0.032	0.134	4.014	0.000*
- Work itself	0.218	0.028	0.237	7.736	0.000*
- Advancement	0.138	0.024	0.178	5.860	0.000*
R = 0.969, R ² = 0.938, Adjusted R ² = 0.937, SE _{EST} = 0.174, F = 668.107, p-value = 0.000*					

* Statistically significant at the level of 0.05.

According to Table 1, motivation factors including achievement, recognition, responsibility, work itself, and advancement affecting employee performance were statistically significant at the level of 0.05, with a forecasting power of 93.7% (Adjusted R² = 0.937).

The areas that most influence employee performance are recognition ($\beta = 0.425$), followed by work itself ($\beta = 0.237$), advancement ($\beta = 0.178$), responsibility ($\beta = 0.134$), and minimal achievement ($\beta = 0.093$).

It can be written in the form of raw score equations and standard scores as follows:

Raw score equation

$$\hat{Y} = -0.010 + 0.097 \text{ Achievement} + 0.419 \text{ Recognition} + 0.128 \text{ Responsibility} + 0.218 \text{ Work itself} + 0.138 \text{ Advancement}$$

Standard score equation

$$Z_y = 0.093 \text{ Achievement} + 0.425 \text{ Recognition} + 0.134 \text{ Responsibility} + 0.237 \text{ Work itself} + 0.178 \text{ Advancement}$$

Table 2 Results of hypothesis tests on employee performance.

Hygiene factors	b	Std. Error	B	t	p-value
Constant	0.401	0.112		3.595	0.000*
- Company Policy and administration	0.156	0.045	0.151	3.433	0.001*
- Relationship with supervisor	0.166	0.048	0.167	3.436	0.001*
- Working Conditions	0.106	0.055	0.103	1.926	0.055
- Salary and benefits	0.048	0.057	0.047	0.832	0.406
- Job Security	0.429	0.039	0.542	10.955	0.000*
R = 0.923, R ² = 0.853, Adjusted R ² = 0.849, SE _{EST} = 0.269, F = 254.908, p-value = 0.000*					

* Statistically significant at the level of 0.05.

According to Table 2, hygiene factors including company policy and administration, relationship with supervisor, and job security affecting employee performance were statistically significant at the level of 0.05, with a forecasting power of 84.9% (Adjusted R² = 0.849).

The areas that most influence employee performance are job security ($\beta = 0.542$), followed by relationship with supervisor ($\beta = 0.167$) and company policy and administration ($\beta = 0.151$).

It can be written in the form of raw score equations and standard scores as follows:

Raw score equation

$$\hat{Y} = 0.401 + 0.156 \text{ Company policy and administration} + 0.166 \text{ Relationship with supervisor} + 0.429 \text{ Job security}$$

Standard score equation

$$Z_y = 0.151 \text{ Company policy and administration} + 0.167 \text{ Relationship with supervisor} + 0.542 \text{ Job security}$$

DISCUSSION & CONCLUSION

Discussion of research results according to objective (1) found that personal factors in terms of different ages affect the performance of employees in Jinhua Education Investment Development Co., Ltd. at a statistically significant level of 0.05. This is in accordance with the assumptions set because age is an important personal factor that significantly affects employee performance in terms of physical, mental, and emotional changes. This may affect workability and performance. When employees get older, they may suffer from health issues that make it difficult to do certain tasks. Especially work that requires physical effort. For example, older workers may have difficulty lifting heavy objects or standing for long periods. This can affect their ability to perform certain tasks. Additionally, age-related health issues such as arthritis or visual impairment can make it harder for employees to complete tasks efficiently. Another aspect of age that can affect employee performance is perception abilities. When a person gets older, their perception abilities may be impaired, especially in areas such as memory and processing speed. This can make it harder for older employees to learn new skills or adapt to changes in the workplace. It is important to note that although perception abilities may decline with age, older employees may have valuable experience and knowledge that will benefit their operations. However, emotional and psychological factors can also affect employee performance, especially as the person ages. Older employees may experience stress related to retirement or financial security. This can affect motivation and commitment at work. Additionally, older employees may feel less connected to their younger colleagues. This can affect a sense of belonging and teamwork skills. The findings are consistent with Ng and Yammarino's (2019) study, "A review and synthesis of age and leadership: Examining a neglected area in leadership research." This study reviews and synthesizes existing research on age and leadership and how age can impact employee performance. The study found that age can impact leadership effectiveness, with older leaders often having more experience and expertise and potentially facing age-related stereotypes and bias. The study also found that age can impact followers' perceptions of leadership, with younger followers often preferring younger leaders and older followers preferring older leaders. And according to research by Martin, Han, and Mathur (2015), who studied "Age and work-related outcomes: The moderating effects of work context." This study explores the relationship between age and work-related outcomes such as job satisfaction, organizational commitment, and performance and how this relationship is moderated by work context. The study found that age can impact work-related outcomes, with older workers often reporting higher levels of job satisfaction and organizational commitment but lower levels of job performance. However, the study also found that work contexts, such as job demands and support, can moderate this relationship, with certain work contexts mitigating the negative effects of age on job performance.

Discussion of research results according to objective (2) found that motivational factors such as achievement, recognition, responsibility, work itself, and advancement affect employee performance in Jinhua Education Investment Development Co., Ltd. at a statistically significant level of 0.05. This is in accordance with the assumptions set because motivational factors that drive employee performance can help Jinhua Education Investment Development Co., Ltd. create a more engaged, motivated, and productive workforce. By addressing the motivational factors of achievement, recognition, responsibility, work itself, and advancement, Jinhua Education Investment Development Co., Ltd. can create a culture of engagement, satisfaction, and productivity that can lead to long-term success and growth. This discussion will focus on the five critical motivational factors of achievement, recognition, responsibility, work itself, and advancement and their impact on employee performance at Jinhua Education Investment Development Co., Ltd. as follows:

Achievement is a fundamental driver of employee motivation. Employees who feel that their efforts are recognized and rewarded are more likely to be motivated to perform at a higher

level. At Jinhua Education Investment Development Co., Ltd., employees given clear goals and objectives and receiving feedback and recognition for their achievements are more likely to be motivated to perform at a higher level. This can lead to improved job satisfaction, increased productivity, and a stronger sense of engagement among employees.

Recognition is another important motivational factor that can impact employee performance. Employees who feel their contributions are valued and recognized are more likely to be motivated to perform at their best. At Jinhua Education Investment Development Co., Ltd., recognizing and rewarding employees for their achievements can help to build a culture of appreciation and recognition. This can lead to improved morale, increased motivation, and a stronger sense of loyalty among employees.

Responsibility is another key motivational factor that can impact employee performance. Employees who feel they have a sense of ownership and responsibility for their work are more likely to be motivated to perform at their best. At Jinhua Education Investment Development Co., Ltd., providing employees with opportunities to take on additional responsibilities and to have a say in decision-making can help to build a sense of ownership and commitment. This can lead to improved job satisfaction, increased motivation, and a stronger sense of engagement among employees.

Work itself is also a crucial motivational factor that can impact employee performance. Employees who find their work challenging and exciting are more likely to be motivated to perform at their best. At Jinhua Education Investment Development Co., Ltd., providing employees with meaningful and challenging work can help to keep them engaged and motivated. This can improve job satisfaction, increase productivity, and create a stronger sense of purpose among employees.

Finally, advancement is another key motivational factor that can impact employee performance. Employees who see opportunities for advancement and career growth are more likely to be motivated to perform at their best. At Jinhua Education Investment Development Co., Ltd., providing employees with opportunities for professional development and career advancement can help build a growth and development culture. This can lead to improved employee retention, increased motivation, and a stronger sense of loyalty among employees.

These findings align with Aslam and Yaqoob's (2016) study, "The impact of motivation on employee's performance: Evidence from healthcare sector of Pakistan." The study found a positive relationship between motivation and employee performance in the healthcare sector of Pakistan. The motivation factors that most impacted performance were achievement, recognition, responsibility, and advancement. Garba, Dauda, and Yahaya's (2019) study, "The impact of motivation on employee performance in public sector organizations: Evidence from Nigeria." The study found that motivation significantly impacts employee performance in public sector organizations in Nigeria. Specifically, the motivation factors of recognition, achievement, and responsibility were significant predictors of employee performance. Hameed, Ramzan, and Zubair (2014) study the impact of employee motivation on employee performance. The study found a positive relationship between employee motivation and employee performance. The motivation factors of achievement, recognition, responsibility, and advancement were found to have a significant impact on employee performance. And in accordance with research conducted by Hasan and Rahman (2017) on the impact of motivation on employee performance in the private healthcare sector in Bangladesh. The study found that motivation significantly impacts employee performance in the private healthcare sector in Bangladesh. The motivation factors of recognition, achievement, responsibility, and advancement were significant predictors of employee performance.

Discussion of research results according to objective (3) found that hygiene factors, including company policy and administration, relationship with supervisor, and job security, affect employee performance in Jinhua Education Investment Development Co., Ltd. at a statistically

significant level of 0.05. This is in accordance with the assumptions set because hygiene factors are those elements of the work environment that, if not present or satisfactory, can lead to employee dissatisfaction and decreased motivation. Some of the most common hygiene factors include company policy and administration, relationship with supervisor, and job security. These factors are essential at Jinhua Education Investment Development Co., Ltd., as they can significantly impact employee performance.

First, company policy and administration refer to the rules and procedures that govern the workplace. This includes attendance policies, performance evaluations, and benefits packages. When these policies are transparent, fair, and consistently applied, employees are more likely to feel satisfied and motivated to perform well. Conversely, when policies are unclear, arbitrary, or unfair, employees may become demotivated and disengaged.

Second, the relationship with supervisor refers to the quality of the relationship between employees and their immediate supervisor. Supervisors play a critical role in creating a positive work environment, providing feedback and support, and ensuring employees have the resources to do their jobs effectively. When supervisors are supportive, approachable, and responsive to employee needs, employees are more likely to feel motivated and engaged. Conversely, when supervisors are distant, unresponsive, or unsupportive, employees may become demotivated and less invested in their work.

Third, job security refers to employees' sense of stability and assurance regarding their employment. When employees feel that their jobs are secure and that they have a future with the company, they are more likely to feel motivated to perform well and invest in their work. Conversely, when employees feel that their jobs are at risk or that the company is unstable, they may become demotivated and less invested in their work.

Overall, hygiene factors like company policy and administration, relationship with supervisor, and job security are essential considerations for Jinhua Education Investment Development Co., Ltd. in maintaining a motivated and engaged workforce. By ensuring that these factors are present and satisfactory, the company can help create a positive work environment that supports high levels of employee performance.

These findings are consistent with Schaubroeck, Ganster, and Jones's (2013) research on "Organizational citizenship behaviors, job satisfaction, and turnover intentions: The role of stress and fairness perceptions." This study found that perceptions of fairness in company policy and administration were positively related to job satisfaction, which was negatively related to turnover intentions. Naseer, Raja, Darr, and Anwar (2016) studied the "Impact of psychological contract breach on employees' job outcomes: the moderating role of perceived organizational support." This study found that a breach of job security, or the psychological contract between employer and employee, was negatively related to job satisfaction and organizational commitment. And in accordance with the research of Hwang, Kim, and Lee (2019), they conducted a study on "Supervisor support and job insecurity: Roles in employee psychological health and work engagement." This study found that a supportive relationship with one's supervisor was positively related to work engagement, while job insecurity was negatively related to psychological health and work engagement.

REFERENCES

- Adair, J. (2006), "How to Grow Leaders: The Seven Key Principles of Effective Leadership Development", Strategic Direction, Vol. 22 No. 8.
- Aslam, S., & Yaqoob, N. (2016). The impact of motivation on employee's performance: Evidence from healthcare sector of Pakistan. *Journal of Education and Practice*, 7(11), 87-95.

- Borman, W.C. and Motowidlo, S.J. (1993) Expanding the Criterion Domain to Include Elements of Contextual Performance. In: Schmitt, N. and Borman, W.C., Eds., *Personnel Selection in Organizations*, Jossey-Bass, San Francisco, 71- 98.
- Campbell, J. P. (1990). Modeling the performance prediction problem in industrial and organizational psychology. In M. D. Dunnette & L. M. Hough (Eds.), *Handbook of industrial and organizational psychology* (pp. 687-732). Consulting Psychologists Press.
- Campbell, J. D., Trapnell, P. D., Heine, S. J., Katz, I. M., Lavalley, L. F., & Lehman, D. R. (1996). Self-concept clarity: Measurement, personality correlates, and cultural boundaries. *Journal of Personality and Social Psychology*, 70(1), 141-156.
- Dion, Michael John, "The impact of workplace incivility and occupational stress on the job satisfaction and turnover intention of acute care nurses" (2006). Doctoral Dissertations.
- Garba, T., Dauda, Y., & Yahaya, R. (2019). The impact of motivation on employee performance in public sector organizations: Evidence from Nigeria. *Journal of Public Administration and Governance*, 9(1), 284-302.
- Hameed, I., Ramzan, M., & Zubair, H. M. (2014). Impact of employee motivation on employee performance. *European Journal of Business and Management*, 6(23), 159-166.
- Hasan, M. N., & Rahman, M. A. (2017). The impact of motivation on employee performance in the private healthcare sector in Bangladesh. *Journal of Management and Strategy*, 8(2), 43-50.
- Herzberg, F., Mausner B. and Snyderman B. (1959). *The Motivation to Work*. (2nd ed.). New York: John Wiley and Sons.
- Hwang, H., Kim, H. R., & Lee, H. J. (2019). Supervisor support and job insecurity: Roles in employee psychological health and work engagement. *Asia Pacific Journal of Management*, 36(3), 655-676.
- Lundberg, C., Gudmundson, A., & Andersson, T. D. (2009). Herzberg's Two-Factor Theory of work motivation tested empirically on seasonal workers in hospitality and tourism. *Tourism Management*, 30(6), 890-899.
- Martin, R., Han, S., & Mathur, P. (2015). Age and work-related outcomes: The moderating effects of work context. *Journal of Managerial Psychology*, 30(6), 714-729.
- Naseer, S., Raja, U., Darr, W., & Anwar, S. (2016). Impact of psychological contract breach on employees' job outcomes: the moderating role of perceived organizational support. *Pakistan Journal of Psychological Research*, 31(2), 357-382.
- Ng, K. Y., & Yammarino, F. J. (2019). A review and synthesis of age and leadership: Examining a neglected area in leadership research. *The Leadership Quarterly*, 30(2), 329-354.
- Ozsoy, E (2019) Ozsoy, E. (2019; in press). *Kariyer Başarısı (Career Success)*. (Ed. Kaygın, E.) In. *Kariyer*. Gazi Kitabevi, Ankara, Turkey.
- Pang, Kelvin and Lu, Chin-Shan (2018). Organizational motivation, employee job satisfaction and organizational performance: An empirical study of container shipping companies in Taiwan. *Maritime Business Review* ISSN: 2397-3757 (April 2018).
- Peterson, E., & Plowman, E.G. 1989. *Business organization and management*. Richard D. Ewin, Homewood Illinois.
- Ruthankoon, R. and Ogunlana, S.O. (2003) Testing Herzberg's Two-Factor Theory in the Thai Construction Industry. *Engineering, Construction and Architectural Management*, 10, 333-342.
- Schaubroeck, J., Ganster, D. C., & Jones, J. R. (2013). Organizational citizenship behaviors, job satisfaction, and turnover intentions: The role of stress and fairness perceptions. *Journal of Business and Psychology*, 28(2), 239-252.

- Stello, C.M. (2011). Herzberg ' s Two-Factor Theory 1 Herzberg ' s Two-Factor Theory of Job Satisfaction: An Integrative.
- Tahsildari, Amin & Shahnai, Shila (2015). Enhancing Organizational Effectiveness by Performance Appraisal, Training, Employee Participation, and Job Definition European Journal of Business and Management ISSN 2222-1905 (Paper) ISSN 2222-2839 (Online) Vol.7, No.12, 2015.
- Yamane, T. (1973) Statistics An Introductory Analysis. 3rd Edition, Harper and Row, New York.

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