

# The Congruency between Motivation and Job Satisfaction in the Context of an Organizational Environment

Mahdi Safa<sup>1,\*</sup>, Johanna Huhtamäki<sup>2</sup>, Parsa Safa<sup>3</sup>, Tobias Riker<sup>4</sup>, Hassan Nasir<sup>5</sup>, Nomita Sharma<sup>6</sup>

<sup>1</sup>Engineering Technology, Sam Houston State University, Huntsville, TX

<sup>2</sup>Supply Chain Manager, Fredman Operations Oy, Lappi

<sup>3</sup>Political Science Department, Baylor University, Waco, TX 76706

<sup>4</sup>Lamar University, Beaumont, TX 77710, U.S.

<sup>5</sup>Department of Civil Engineering, CECOS University of IT & Emerging Sciences, Peshawar

<sup>6</sup>Department of Management Studies, University of Delhi

\*Corresponding author: [mxs167@shsu.edu](mailto:mxs167@shsu.edu)

Received October 21, 2020; Revised November 22, 2020; Accepted December 01, 2020

**Abstract** The professional competence of employees within an organization plays a major role in overall performance. Job satisfaction and motivation are critical conditions for the effective application of skills and knowledge. The degree of job satisfaction, as well as motivation, can have a substantial impact on the behavior of an individual. There might be a correlation between higher levels of dedication or stimulation with higher performance. It is indeed a challenge for any organization to increase job satisfaction through motivation. This study investigates the conceptual outlook relating the two important issues in strategic human resources management, i.e. motivation and job satisfaction. The helix application has been used for conducting surveys. The results of the study show that the importance of intrinsic motivation is particularly significant in a relationship between job satisfaction and motivation.

**Keywords:** *motivation, job satisfaction, organizational environment, strategic human resource management, Organizational Theor*

**Cite This Article:** Mahdi Safa, Johanna Huhtamäki, Parsa Safa, Tobias Riker, Hassan Nasir, and Nomita Sharma, "The Congruency between Motivation and Job Satisfaction in the Context of an Organizational Environment." *Journal of Business and Management Sciences*, vol. 8, no. 3 (2020): 89-96. doi: 10.12691/jbms-8-3-3.

## 1. Introduction

Job satisfaction and motivation are considered as important concepts in the study of Organizational Theory. Motivation is an important element in improving work productivity [1,2,3,4]. Employee motivation has always been a central problem for leaders and managers [5]. Furthermore, motivation has been regarded as a driving force influencing decisions associated with the employees' promotion; motivation "is like an internal self-charging battery" [6]. Motivation at the workplace is considered as a key subject among managers, teachers, coaches, and parents, for stimulating performance among others [7]. Job satisfaction is not the same as motivation, although it is linked. A definition of the concept of job satisfaction was proposed by Judge et al. [8,9]; job satisfaction includes multidimensional psychological responses to an individual's job, and these personal responses have either cognitive, affective, or behavioral components.

This study investigates a key theoretical perspective of strategic human resource management: motivation and job satisfaction theories. Motivation and satisfaction can play a huge role in an overall employee's commitment toward an organization. Motivation and satisfaction have been well theorized and studied in the empirical literature. But there is paucity in the past literature highlighting the correlation between satisfaction and motivation in the context of an organizational environment.

This study is composed of two phases; the first phase presents the conceptual background of strategic human resource management with respect to motivation and job satisfaction theories. The second phase presents the result analysis of the empirical survey. The survey is based on Meyer and Allen's three-component commitment model that has used the Helix application.

## 2. Motivation

Literature suggests different opinions of the researchers concerning motivation. For instance, several research

streams have highlighted that people show consistent individual differences in their motivational and attitudinal biases to role models [10,11,12]. Spector defined motivation as "an internal state that induces a person to engage in particular behaviors" [13]. Motivation is a direct tool for predicting the level of commitment. It inspires employees to spend time and energy in the organization [14]. Intrinsic motivation plays an important role in making employees more efficient [6]. In order to achieve satisfaction in the workplace, an employee must be motivated by an internally-generated drive.

Pider defined work motivation as "a set of energetic forces that originate both within and beyond an individual's being, to initiate work-related behavior, and to determine its form, direction, intensity, and duration" [15]. Motivation as a force induces action in employees. Motivation is identified as an energizing and stimulating force that has an impact on the form, direction, intensity, and duration of behavior. It explains what employees are motivated to accomplish, how they accomplish it, and to what extent they are committed to the task [16,17].

Motivation reflects an individual's temperament towards a task for gaining positive incentives and subsequently, avoiding negative incentives. The incentive is an expected perk or an aversive situation in an environment [18]. The degree of motivation can vary among individuals to a great extent. It must be studied in the context of ability and environmental factors, that have the potential to impact behavior and performance [19,20]. A study by Kozlowski and Bell suggests a "change in the motives of an individual with respect to age [21]. This change does not necessarily mean a decline in motivation. It hinted that extrinsic motivation at work tends to have less influence on the older employee's motivation as compared to the intrinsic motivation at work.

The two important types of motivation are intrinsic and extrinsic motivation. The basis of extrinsic motivation is "rewards" from external resources. This may be considered as money, admiration, or acknowledgment of performance. Intrinsic motivation is driven by passion, enjoyment, or pleasure. Intrinsic motivation is concerned with a positive mind-set. According to Deci, action results in satisfaction. Satisfaction is not based on the consequences [22]. When people have their psychological needs met, then they feel autonomous, competent, and connected [7].

### 3. Job Satisfaction

Job satisfaction has been explained as the degree to which employees have admiration for their work [23,24]. For several decades, researchers have studied job satisfaction. Various types of research have been conducted to understand the relation between job satisfaction and commitment. The studies on satisfaction are related to different demographics factors such as age, gender, race, education, and work experience. Most research is on job satisfaction and the person-environment fit model is defined as the degree to which an individual and environment characteristics match [25,26,27]. Most of the employees tend to quit organizations because of job

dissatisfaction. Thus, the subject matter is an important area of research.

Previous studies have proposed a relationship between commitment and satisfaction that stipulates a positive correlation between employee satisfaction and greater commitment to their work. Work commitment is seen as a person's adherence to work ethic, commitment to a career/profession, job involvement, and organizational commitment [28,29]. Arne L. Kalleberg, a Kenan Distinguished Professor of Sociology at the University of North Carolina at Chapel Hill studied worker's attitudes at work in the USA and Japan. There was a correlation of 0.73 between job satisfaction and organizational commitment in the case of Japan and a higher significant correlation of 0.81 among Americans [30]. Another study [31] indicated that there is a strong association between commitment and satisfaction in the context of a job. Also, satisfaction is a definitive predictor of commitment. In the retail and services sector, employee satisfaction at work can also build an association between satisfaction and loyalty among customers.

Meyer and Allen have suggested a three-component model of commitment on the basis of past studies on organizational commitment [32]. The model describes that commitment to an organization is a psychological state. It has three distinct components that affect how employees feel about the organization that they work for. The model aids in the interpretation of existing research and serves as a framework for future research. The result of the study also explained three components that have the potential to characterize the commitment of an employee in the organization. The three components are affective commitment, continuance commitment, and normative commitment. This model can be used to increase commitment and engagement in a team or workgroup and also help employees to experience a greater feeling of well-being and job satisfaction.

The affective commitment occurs when an employee has a strong emotional attachment to one's job in an organization. The individual is most likely to have strong belongingness with the organization and its goals. If one is enjoying the work, he is likely to feel good and be satisfied with the job. The satisfaction at work is expected to have a feeling of affective commitment. Continuance commitment occurs when the employee tends to analyze the gains and losses in case of leaving the organization. Employees may be attracted to continue in the same organization as gains are more than the loss that individuals might experience by leaving an organization. These perceived losses may be in the form of loss of salary or benefits. Employees may also be deprived of career advancements. The situation may aggravate with age and experience. This can result in decreased employee commitment. But if an individual is successful in an organization then he is likely to experience more continuance commitment. Normative Commitment is related to the sense of employee obligation towards the organization. Employees prefer to stay in an organization even though they are not satisfied with the job. They consider it a 'right' thing as they have invested in learning in an organization. The other reasons may be the advance payment to an employee or a strong sense of loyalty.

The application of the “three-component model” can help organizations in developing effective commitment among teams. The absence of affective commitment may result in a decrease in the motivation of team members. These team members might also block enthusiastic employees, or even discourage the morale of the group. Management by Objectives approach (MBO) is another approach that can be utilized by organizations to align employee’s objectives with the organization’s goals in order to encourage positive behaviors [33].

Previous research studies have shown the positive effects of the correlation between in-group and wide-ranging society [34,35]. The positive emotions play a crucial role in developing affective commitment among employees. Organizations can create a healthy work environment by encouraging the development and appreciation of employees [36].

Several similarities can be recognized between motivation and commitment even though the two are distinct concepts. But at the same time, they are interdependent also. Meyer and his associates argued that commitment is one component of motivation [37]. Gagne, Boies, Koetner, and Martens studied the relationship between motivation and the three-component theory of commitment [38]. They stated that affective commitment is closest to autonomy motivation [38]. The following section provides a summary of the research methodology phases and elements with regard to the congruency between job satisfaction and motivation.

## 4. Methodology

The research examines the correlation between motivation and job satisfaction of employees. The research hypotheses of the study are: (1) Is there a correlation between motivation and job satisfaction? (2) Are motivated employees more satisfied with their work than not motivated employees and vice versa? The population of the study comprises employees of the Technical Department of a Finnish power plant. Due to a confidentiality agreement, the name of the company is not disclosed.

It should be noted that the aim of the study was to evaluate whether the examined elements have correlation and not to evaluate the job satisfaction or motivation levels of the respondents independently. Therefore, the general and independent analysis of job satisfaction and motivation were excluded from the study. The research has been conducted in two steps, i.e. The first step involves understanding theoretical concepts of strategic human resources management with a special focus on motivation and job satisfaction. The second step presents the result analysis of the empirical survey carried out with the help of the Helix application. A logical sequence has been drawn which represents the research methodology (Figure 1). The first step was to define the research idea and objective; the next step was to develop a research design in line with the research objective defined in the first step. The third step was to define a data collection method and the last step was to analyze the data.

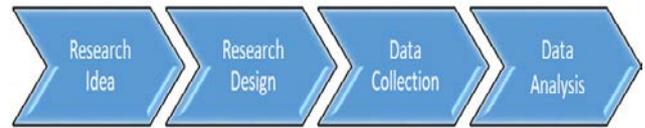


Figure 1. Research Methodology Steps

### 4.1. Research Design

The study was carried out involving personnel of the Technical Department of the company in 2018. The Department has approximately 150 employees and 50 of them were chosen to participate in the study. Although the size of the sample was relatively small, it represented the population extensively. 29 (66%) respondents were men and 10 (23%) were women. 5 (11%) participants had not disclosed their gender. Respondents’ age ranged from 26 to 60 and the mean age was 40.6. The mean of working experience was 16.7 years. On average, the participants had worked for 8.2 years in the current organization and 6.2 years in their current position. All respondents were senior staff and three were in supervisory positions. 68% of the participants of the study were engineers and 57% of them had completed a Master’s degree. 5% of the respondents had financial education, 5% had studied computer science and 18 % had not disclosed information regarding their education. The response rate of the study is 88% with almost 44 respondents.

The decision was to use the already existing Helix-application. The study consists of several different statements that are evaluated by the respondents. The study and its statements are based on Meyer and Allen’s three-component theory of motivation. Based on the theory, all statements fall into one of these components: affective, normative, or continuous motivation.

The study is qualitative research that also includes features of quantitative research. The study consists of 240 different statements that are evaluated by the participants. Since this study does not evaluate motivation levels but concentrates on job satisfaction and motivation, the evaluation concentrated on 71 statements, which measure and evaluate job satisfaction, intrinsic motivation, and motivating potential of the job. The statements are qualitative but the evaluation of these statements has been done by using statistical methods which are quantitative. The universe of the study consists of the whole technical Department staff.

This study was carried out as a sample survey. The type of survey was discretionary sampling and a random sample was used in the study. Different employees representing several offices of the technical department of the company are considered for equal representation of offices. Also, the number of participants in each office was defined beforehand to be sure that more percentage of responses from offices with more employees. These were the reasons why discretionary sampling was chosen. After defining the number of participants of each office, random sampling was used to select the participants. Discretionary sampling was used to ensure the sampling would represent the universe as closely as possible.

### 4.2. Instrumentation

Helix is an evolution-based application that has emerged as a tool to measure and evaluate the commitment level of personnel. The application and its statements were developed by Jarmo Einolander. Helix application can be used for several test applications, which can be developed and used globally [39]. The evolve methodology is based on Senge’s view of creative tension [40]. Evolute adapts fuzzy logic, which can be used to describe the subjective, abstractive, and not defined current vocational competencies of the individuals. Using fuzzy logic enables using verbal meanings to a numerical scale without separate converting [41].

The Helix approach starts with a self-evaluation conducted by the personnel. The aim is to gain an understanding of the competence levels they think they have. The self-evaluation is made by analyzing the thoughts and feelings of individuals.

### 4.3. Data Collection

Data were collected on-site. User-IDs had been created beforehand and they had been sent by e-mail to each participant. The participants of the study were divided into three groups. At first, all participants were given a short presentation explaining how to sign in the instrument and how to answer the statements. This was made to make sure that everyone knows what to do. There was plenty of time to respond in order to ensure all participants had time to provide a numerical evaluation (either 0 or 1) to every statement. Participants were allowed to ask questions concerning statements or the Helix instrument. However, only very few questions were asked after the presentation.

The following section explains the results of this study and discusses the congruency between job satisfaction and motivation.

## 5. Analysis and Results

In this study, the results of job satisfaction and motivation have been calculated separately, and then those results have been examined together. Motivation has been demonstrated both in general terms of intrinsic motivation and motivating potential of the job. The two have been examined separately as well. The data analysis uses mean estimations of all respondents as well as evaluations of each respondent individually. The structure of the study is hierarchical and results have been visualized with the radar charts and bar charts. The data has been analyzed by defining subclasses of job satisfaction, intrinsic motivation, and motivational potential of the job. (see Figure 2). A subclass has a different number of statements that participants evaluate from 0 to 1. Job satisfaction has seven subclasses, intrinsic motivation has five and the motivational potential of the job has six subclasses.

The main statistics of the study are the mean and standard deviation of the results of job satisfaction, motivation in general, intrinsic motivation, and motivating potential of the job. When considering all three main categories, job satisfaction has the lowest mean with 0.67 (values between 0 and 1), although the mean for intrinsic motivation and the motivational potential job is not significantly higher with 0.68 and 0.69, respectively. The overall slight spread of 0.02 between the three main categories indicates high correlations.

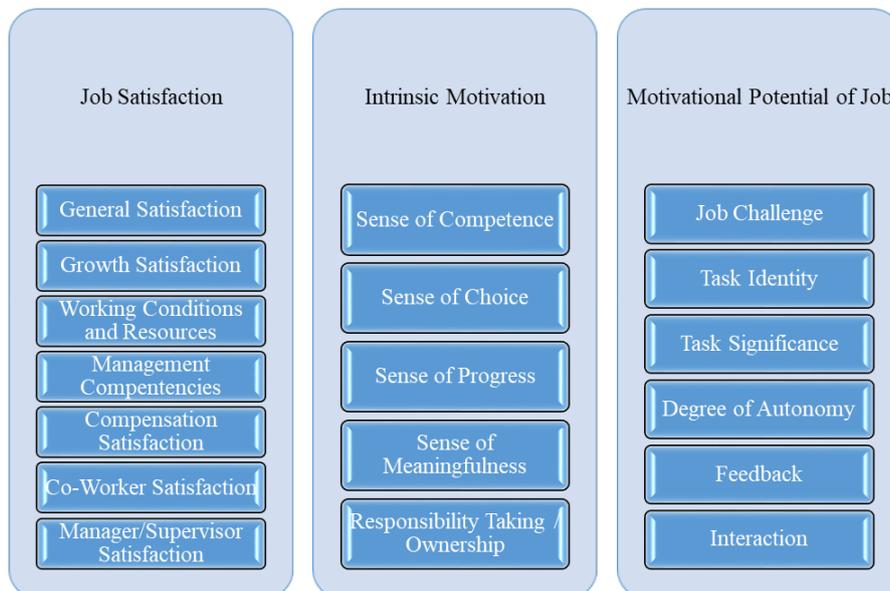


Figure 2. Main categories: job satisfaction, intrinsic motivation, and motivational potential of job

Table 1. Statistics of the study

	Job Satisfaction	Motivation	Intrinsic Motivation	Motivating Potential of Job	The Difference Between Job Satisfaction and Motivation	The Difference Between Job Satisfaction and Intrinsic Motivation	The Difference Between Job Satisfaction and Motivating Potential of Job
Mean	0,67	0,68	0,69	0,67	-0,01	-0,02	0,00
SD	0,14	0,12	0,11	0,14	0,10	0,10	0,12

The standard deviation of job satisfaction is the highest, 0.14, while intrinsic motivation has the lowest value of standard deviation with 0.11. Furthermore, the differences between job satisfaction and motivation in general, and two of its main categories are shown below in Table 1. In general, the differences are very small and in fact, job satisfaction and motivating potential of the job have been evaluated to be the same. The standard deviation is 0.10 between job satisfaction and motivation as well as between job satisfaction and intrinsic motivation. The highest standard deviation difference is between job satisfaction and the motivating potential of the job

By comparing the standard deviation of job satisfaction with the value of 0.67 and motivation in general of 0.68, the insignificant difference between those two categories illustrates that job satisfaction and motivation have almost the same value under the participants (see Figure 3).

By evaluating the results on a general level with average values of each statement under motivation, intrinsic motivation, and motivating potential, the study strongly indicates a correlation between job satisfaction and motivation. The two variables have almost the same value which indicates that motivation affects job satisfaction and job satisfaction affects motivation.

### 5.1. Job Satisfaction and Motivation per Person

Another appealing analysis of the results is to consider the evaluations individually, per person. In this approach, the average of all evaluations was calculated individually for all main categories, to demonstrate whether the correlation between motivation and job satisfaction could also be identified per person. The spread between the answers of each participant is significant for both, job satisfaction and motivation. While the lowest value of job satisfaction is 0.34, another participant valued his job satisfaction significantly higher at 0.90. Figure 5, below illustrates how each person has evaluated subjective job satisfaction and motivation. The numbers from 1 to 44 on the outside of the circle are allocated to the 44 participants taking part in the study, while the numbers vary from 0.00 to 1.00, indicating the range of statement evaluations.

The main categories, intrinsic motivation, and motivating potential of the job are combined with general motivation. The results show a high individual correlation between a person's job satisfaction and motivation with only a few outliers (see Figure 4). Furthermore, 16% of all participants gave job satisfaction and motivation the same rating, underlying the strong correlation. By further analyzing the data, it appears that the bottom 10% (4 participants) valued job satisfaction below 0.45, while the bottom 10% ratings of motivation were 0.53 or lower. 3 of 4 participants with significant low job satisfaction ratings had considerably higher motivation ratings, indicating that the correlation between both categories is high, but does not apply for every person. Positive outliers or high differences above a value of 0.70 are not existing, indicating a high correlation between job satisfaction and motivation. This suggests that high motivation among employees results in high job satisfaction and vice versa.

Intrinsic motivation is a key measurement for the overall employee job satisfaction, an in-depth analysis of the correlation between job satisfaction and intrinsic motivation is essential. 52% of the participants have evaluated intrinsic motivation higher than job satisfaction (Figure 5). 44% evaluated job satisfaction to be higher than intrinsic motivation, while one-quarter of them have evaluated the difference smaller than 0.02. Furthermore, two participants evaluated the motivation and job satisfaction equally. Thus, 73% of the participants have evaluated intrinsic motivation to be better than job satisfaction, the same as job satisfaction or only slightly below job satisfaction. This result shows the close relationship between both, intrinsic motivation and job satisfaction and can also be an indication of employee retention, turnover. Employees with high intrinsic motivation and low job satisfaction tend to be unsatisfied with their current situation, as they want to make the company better but don't see the possibility of full utilization of their potential. This leads to a higher turnover rate as the employee feels unfulfilled. Therefore, a high correlation between intrinsic motivation and job satisfaction is desirable and leads to lower employee turnover.



Figure 3. Job satisfaction and motivation in general

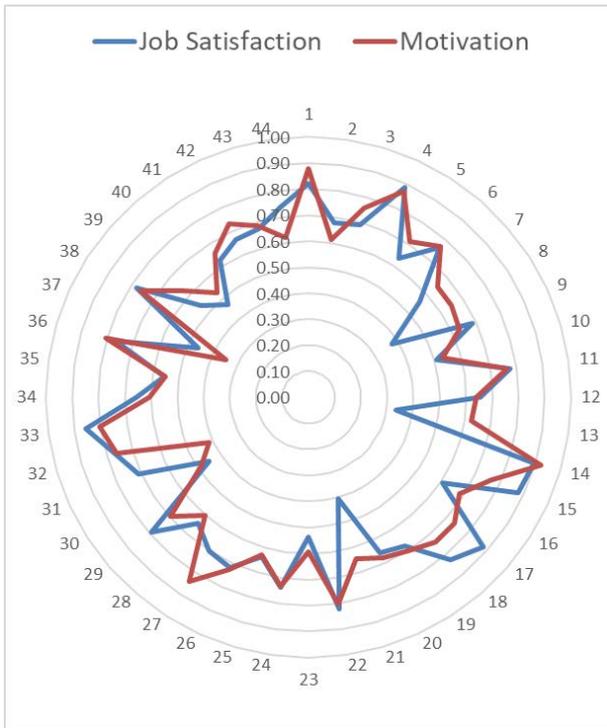


Figure 4. Satisfaction and motivation per person

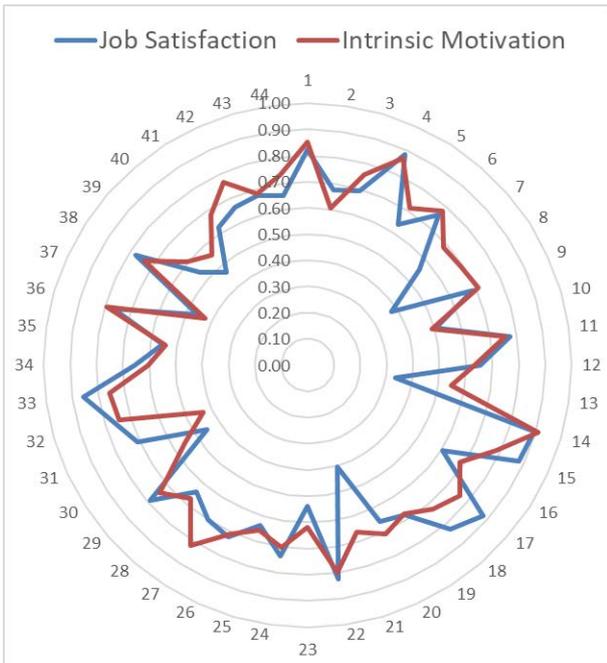


Figure 5. Satisfaction and intrinsic motivation per person

Specific analysis of participants with a job satisfaction value of 0.65 or lower shows less correlation between intrinsic motivation and job satisfaction. The study reveals that participants unsatisfied with their job, which we considered being a value below 0.65, have to 80 percent a higher intrinsic motivation than job satisfaction. 36 percent of the participants valued their job satisfaction below 0.65 with a mean of 0.52. In comparison, only 27 percent valued intrinsic motivation lower than 0.65 with a considerably higher mean of 0.61 (see Table 2). The lower and more volatile job satisfaction shows the importance of leadership in corporations as job satisfaction requires more incentives than intrinsic motivation.

Table 2. Comparison of Intrinsic Motivation and Job Satisfaction

Range	Intrinsic Motivation	Job Satisfaction
0-0.65	27%	36%
0.65-1	73%	64%
Mean	0.52	0.61

From the 36 percent of participants valuing job satisfaction below 0.65, only three participants ranked job satisfaction higher than intrinsic motivation with a maximum differential of 0.03. As lower job satisfaction is associated with a lower intrinsic value, 80 percent of those 36 percent valued intrinsic motivation higher than job satisfaction. By comparing the job satisfaction and intrinsic motivation means (of the 36 percent participants with a job satisfaction value of 0.65 or lower) the high correlation from the overall survey dilutes and a significant disparity occurs. While the mean for Job satisfaction with 0.52 is very low, 36 percent of participants rated intrinsic motivation on average with 0.61 significantly higher. The results are explainable by the cause that participants are unsatisfied with their job and working environment but human beings have intrinsic motivation to work.

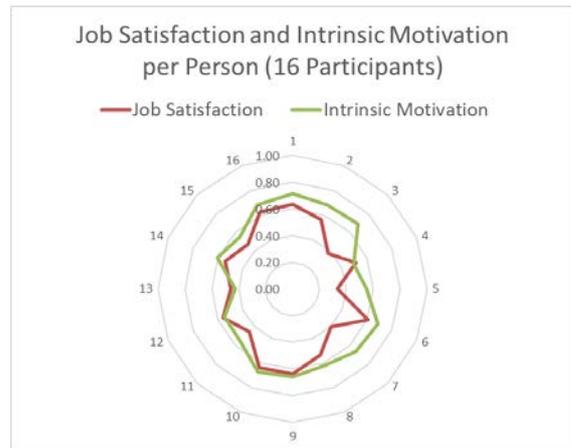


Figure 6. Job Satisfaction and intrinsic motivation per person (16 Participants)

The correlation of motivation and job satisfaction can also be seen by looking into the percentage of participants that have evaluated job satisfaction and motivation and its two main categories in a certain range (Table 3). The highest percentage of the participants has evaluated the difference between job satisfaction and motivation, intrinsic motivation, and motivating potential of the job to be only between 0 and 0.02. Also, all evaluated categories have the same percentage, 9, in the highest range which means values higher than 0.2.

Table 3. Percentage of participants in the study

Range	The Difference Between Job Satisfaction and Motivation	The Difference Between Job Satisfaction and Intrinsic Motivation	The Difference Between Job Satisfaction and Motivating Potential of Job
0-0.02	32%	32%	30%
0.03-0.05	20%	25%	25%
0.06-0.1	27%	27%	16%
0.11-0.15	11%	7%	14%
0.16-0.20	0%	0%	7%
>0.20	9%	9%	9%

The results of the study show lower volatility in motivation than job satisfaction. Furthermore, the analysis indicates that motivation was rated rarely significantly below job satisfaction. When an employee rated its job satisfaction relatively low, the motivation was often significantly higher, compared to participants 8, 13, and 21 (Figure 4). On the opposite, when motivation has been rated low, job satisfaction was always closely correlated. By analyzing participants with lower job satisfaction, intrinsic motivation tends to be higher, indicating personal satisfaction at the same time the participant is unsatisfied with his working environment. This shows the importance of leadership, employee prospects, working environment in companies, and the need for investment in those areas.

## 6. Conclusion

Job satisfaction can be explained in a broader context of the different issues affecting an individual's experience at work, or their quality of working life. Job satisfaction can be understood in relation to other key factors such as general well-being, stress at work, control at work, home-work interface, and working conditions. It is crucial for organizations to understand and structure the work environment to support productive behaviors and discourage unproductive behaviors given work motivation's role in influencing workplace behavior and performance.

As the workplace environment includes more group-based systems, the study of motivation within these groups is very relevant. To date, most of the research has focused on the Job Characteristics Theory and the Goal-Setting theory while more research is required in the area of broader range of motivation theories. Past research shows that appropriate goal-setting influences group motivation and performance. More detailed research is required in the area of group goals, individual goals, cohesiveness, commitment, and performance etc. As the organizations have increased dependency on the teams, there is an incessant need to study motivation of teams in the workplace. So far, the overarching research merely suggests a proper match between individual-level and team-level sources of motivation.

The key finding of the study reveals that there is correlation between job satisfaction and employee motivation. The correlation is reciprocal that indicates employees with high morale tend to be satisfied with their job and satisfied employees tend to be motivated at work. Further to add to this perspective, research findings demonstrate influence of job satisfaction on work behaviors such as organizational citizenship behavior i.e. a person's voluntary commitment within an organization or company that is not part of his or her contractual tasks. Low employee morale results in withdrawal behaviors such as absenteeism, and employee turnover. This research indicates that personnel are relatively motivated and satisfied. Notable differences between different departments, gender or age groups, or length of organizational membership were not indicated.

Finally, this study confirms the role of the 'Three-Component Model' by Meyer and Allen in an organization. The adaptation of the model can increase affective commitment among teams. Employees are likely

to be more committed within organizations. This leads to higher motivation and job satisfaction. It is paramount for any organization to enhance affective commitment among employees. They should also work towards reducing the team's reliance on continuance and normative commitment. This is more relevant for developing a team of employees who are passionate about their jobs.

## References

- [1] Vasalampi, K., Parker, P., Tolvanen, A., Lüdtke, O., Salmela-Aro, K., & Trautwein, U. Integration of personality constructs: The role of traits and motivation in the willingness to exert effort in academic and social life domains. *Journal of Research in Personality*, 48, 2014, 98-106.
- [2] Simpson TE, Safa M, Sokolova A, Latiolais PG. Career Readiness and Employment Expectations: Interdisciplinary Freshman Experience. *Journal of Business and Management Sciences*. 2019 Oct 20; 7(3): 121-30.
- [3] Weeks K, Guiffrida A, Safa M. The efficacy of routing and flexibility on financial performance within an international manufacturing setting. *International Journal of Productivity and Performance Management*. 2018.
- [4] Dietrich, J., Parker, P., and Salmela-Aro, K. Phase-adequate engagement at the post-school transition. *Developmental Psychology*, 48, 1575-1593, 2012.
- [5] Ganta, V. Motivation in the Workplace to Improve the Employee Performance. *International Journal of Engineering Technology, Management and Applied Sciences*, Volume 2 Issue 6, ISSN 2349-4476, 2014.
- [6] Bassett-Jones, N., & Lloyd, G. C. (2005). Does Herzberg's motivation theory have staying power? *The Journal of Management Development*, 24(10), 929-943, 2005.
- [7] Deci, E. L., & Ryan, R. M. Facilitating optimal motivation and psychological well-being across life's domains. *Canadian Psychology*, 49, 14-23, 2008.
- [8] Judge T.A., Erez, A., Bono JE, Thoresen CJ. The core self-evaluation scale: Development of a measure. *Personnel Psychology*, 56, 303-331, 2003.
- [9] Levius S, Safa M, Weeks K. Information and communication technology strategies to improve international competitiveness in the wholesale and retail trade sector. *International Journal of Business and Globalisation*. 20(1): 128-38, 2018.
- [10] Pang, J. S., Villacorta, M. A., Chin, Y. S., & Morrison, F. J. Achievement motivation in the social context: Implicit and explicit hope of success and fear of failure predict memory for and liking of successful and unsuccessful peers. *Journal of Research in Personality*, 43(6), 1040-1052, 2009.
- [11] Safa M, Shahi A, Haas CT, Hipel KW. Construction contract management using value packaging systems. *International Journal of Construction Management*.; 17(1):50-64, 2017.
- [12] Feldman DC, Beehr TA. A three-phase model of retirement decision making. *American Psychologist*. 66(3):193, 2011.
- [13] Spector, P. *Industrial and organizational psychology, research and practice*. New York: John Wiley and Sons Ltd, 2006.
- [14] Mowday, R. T., Steers, R.M. & Porter, L.W. The measurement of organizational commitment. *Journal of Vocational Behavior*, 14, 224-247, 1979.
- [15] Pinder, C. C. *Motivation in work organizations*. Upper Saddle River, NJ: Prentice Hall, 1998.
- [16] Morkevičiūtė M, Endriulaitienė A. Explaining work motivation through perceived transformational leadership: what to expect in a sample of female employees?. *Gender in Management: An International Journal*. 2020.
- [17] Safa M. An advanced construction supply nexus model. University of Waterloo, *uwspace*, 2013.
- [18] Inceoglu, I., Segers, J., & Bartram, D. Age-related differences in work motivation. *Journal of Occupational and Organizational Psychology*, 85(2), 300-329, 2012.
- [19] Deckers, L. Motivation: Biological, psychological, and environmental. *Psychology Press*, 2015.
- [20] Safa M, Baeza S, Weeks K. Incorporating Blockchain technology in construction management. *Strategic Direction*. 2019.

- [21] Kozlowski, S. & Bell, B. Work groups and teams in organizations. *Handbook of Psychology (12): Industrial and Organizational Psychology*, 333-75, 2003.
- [22] Deci, E. L. Effects of externally mediated rewards on intrinsic motivation. *Journal of personality and Social Psychology*, 18(1), 105, 1971.
- [23] Gable SL, Reis HT, Elliot AJ. Evidence for bivariate systems: An empirical test of appetition and aversion across domains. *Journal of Research in Personality*. 37(5):349-72, 2003.
- [24] Safa M, Weeks K, Stromberg R, Al Azam A. Strategic Port Human Resource Talent Acquisition and Training: Challenges and Opportunities. In *International Conference on Applied Human Factors and Ergonomics*, Springer, pp. 205-215, 2017.
- [25] Kristof-Brown, A.L., Zimmerman, R.D., & Johnson, E.C. Consequences of individuals' fit at work: A meta-analysis of person-job, person-organization, person-group, and person-supervisor fit. *Personnel Psychology*, 58, 281-342, 2005.
- [26] Ahmad N, Oranye NO. Empowerment, job satisfaction and organizational commitment: a comparative analysis of nurses working in Malaysia and England. *Journal of nursing management*. 18(5): 582-91, 2010.
- [27] Dadi GB, Safa M, Goodrum PM, Haas CT, Caldas CH, MacNeel D. Improving concrete trade labor productivity through the use of innovations. *Construction Research Congress*, Construction Challenges in a Flat World 2012, pp. 2479-2488, 2012.
- [28] Iqbal A, Kokash HA, Al-Oun S. The impact assessment of demographic factors on faculty commitment in the Kingdom of Saudi Arabian universities. *Journal of College Teaching & Learning (TLC)*, 8(2), 2011.
- [29] Safa M, Reinsma S, Haas CT, Goodrum PM, Caldas CH. A decision-making method for choosing concrete forming systems. *International Journal of Construction Management*. 18(1): 53-64, 2018.
- [30] Kalleberg, A. L., & Rosenfeld, R. A. Work in the family and in the labor market: A cross-national, reciprocal analysis. *Journal of Marriage and the Family*, 331-346, 1990.
- [31] Dirani, K. M.; Kuchinke, K. P. Job satisfaction and organizational commitment: Validating the Arabic satisfaction and commitment questionnaire (ASCQ), testing the correlations, and investigating the effects of demographic variables in the Lebanese banking sector. *The International Journal of Human Resource Management*. 22 (5): 1180, 2011.
- [32] Meyer, J. P., & Allen, N. J. A three-component conceptualization of organizational commitment. *Human resource management review*, 1(1), 61-89, 1991.
- [33] Klein HJ, Molloy JC, Brinsfield CT. Reconceptualizing workplace commitment to redress a stretched construct: Revisiting assumptions and removing confounds. *Academy of management review*, 37(1):130-51, 2012.
- [34] Oyserman, D. Racial-ethnic self-schemas: Multidimensional identity-based motivation. *Journal of Research in Personality*, 42(5), 1186-1198, 2008.
- [35] Oyserman, D., Uskul, A., Yoder, N., Nesse, R., & Williams, D. Unfair treatment and self-regulatory focus. *Journal of Experimental Social Psychology*, 43, 505-512, 2007.
- [36] Safa M, Gouett MC, Haas CT, Goodrum PM, Caldas CH. Improvement of Weld-less Innovation on Construction Project. In *3rd International/9th Construction Specialty Conference*, 2011.
- [37] Meyer, J.P, Becker, T.P, and Vandenberghe, C. Employee Commitment and Motivation: A Conceptual Analysis and Integrative Model. *Journal of Applied Psychology*. 89(6), 991-1007, 2004.
- [38] Gagné, M., Boies, K., Koestner, R., & Martens, M. How work motivation is related to organizational commitment: a series of organizational studies. Manuscript, *Concordia University*, 2004.
- [39] Kantola, J., Vanharanta, H., Laukkanen, I. & Piirto, A. Showing Asymmetries in Safety Culture through Proactive Vision. *Chemical Engineering Transactions*. Vol. 31, 2013.
- [40] Senge, Peter M. The art and practice of the learning organization. *New York: Currency Doubleday. Senge The Fifth Discipline: The Art and Practice of the Learning Organisation* 1990, 1990.
- [41] Kantola, J., Vanharanta, H. & Karwowski, W. The Evolute System: A Co-Evolutionary Human Resource Development Methodology. *Taylor & Francis Group, LLC*, 2006.

