

**DIMENSIONS OF WORK TASK MOTIVATION FOR ENGINEERS IN
GOVERNMENT ENTITIES**

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ABSTRACT

This study investigates the multifaceted dimensions of work task motivation among engineers working within government entities. The motivation of engineers is a crucial factor influencing the quality of services provided to the public, as well as their job satisfaction and performance. In the specific context of government bodies, engineers face unique challenges, including bureaucratic processes, resource limitations, and complex projects, which can significantly impact their motivation levels. The research focuses on exploring key dimensions that influence work task motivation among engineers in government entities. Factors such as the importance of meaningful work, recognition, opportunities for professional growth, autonomy in decision-making, leadership support, and the impact of organizational culture within these settings are examined in detail. By delving into these dimensions, the study aims to provide insights that can guide the formulation of targeted strategies to enhance the motivation and performance of engineers.

Through a comprehensive analysis of these dimensions, this study aims to offer valuable insights that can assist government entities in creating environments that foster higher motivation, job satisfaction, and improved service delivery to the public. The ultimate goal is to propose practical interventions tailored to the specific needs of engineers working within government frameworks, aiming to enhance their work experience and productivity. Understanding and addressing these unique motivational dimensions can lead to more effective strategies that optimize the performance and satisfaction of engineers within governmental structures.

INTRODUCTION

Engineers are essential to government organizations as their expertise drives innovation, infrastructure development, and public service delivery. One of the few academic advancements in the subject of public administration that might be significant enough to satisfy this need is public service motivation. (Brewer 2013, Perry and Vandenabeele 2015). These engineers' intrinsic drive has a major impact on their output, level of satisfaction with their jobs, and ultimately the standard of services they offer the general public. The purpose of this study is to investigate the several factors that influence and mold government agency engineers' motivation for their work tasks.

The specific context of engineers working within governmental structures presents a unique set of challenges and opportunities. Factors such as bureaucratic processes, resource constraints, and the complexity of public projects can significantly influence the motivation levels of engineers. Understanding these dimensions of motivation is crucial to design tailored strategies that can enhance their work engagement and, consequently, improve overall service delivery.

An employee's affective response to their work, as determined by a comparison of their desired and actual outcomes, is known as job satisfaction. (Usop, et. al., 2013). This study will focus on exploring key dimensions of work task motivation, such as the significance of meaningful work, recognition, opportunities for professional growth, autonomy in decision-making, leadership support, and the influence of organizational culture within government entities. By analyzing these dimensions, the aim is to offer insights that could guide the formulation of strategies aimed at elevating the motivation and performance of engineers in these settings.

The findings of this research endeavor to contribute valuable insights that could assist government entities in creating work environments conducive to higher motivation, job satisfaction, and ultimately, improved service delivery to the public. By understanding and addressing the specific motivational dimensions within these entities, the goal is to propose practical interventions that enhance the overall work experience and productivity of engineers operating within government frameworks.

OBJECTIVES

This research entitled “**Dimensions of Work Task Motivation for Engineers in Government Entities**” aims to resolve the following problems:

1. What are the dimensions of work task motivations for engineers in government entities?
2. What framework can be developed based on the findings?
3. How can an understanding of the dimensions of work task motivation among engineers within government bodies contribute to optimizing service delivery to the public?

Scope and Limitations of the Study

The respondents of the study will be the Engineers working in government agencies around Mindanao, the majority of the respondents came from Davao City while there are Engineers working in the National, Local, City and Municipal Government Offices from BARMM, SOCCSKSARGEN, Davao Region and Caraga Region. The study will conduct a Quantitative Analysis method through surveys and onsite observation. This study will also focus on a short time scope and focus as a cross-sectional survey wherein the current motivational factors of Engineers at the time of the survey is considered. Limitations encountered by the researchers are the limited time frame of the cross sectional survey and external factors such as economic trends, government policies and political factors which greatly affect work task motivations among government engineers.

Review of Related Literature

According to a thorough definition, job satisfaction is an enjoyable or upbeat emotional state brought on by an evaluation of one's job or work experiences. (Mafini & Dlodlo, 2014). Additionally, they describe job satisfaction as an individual's assessment of the circumstances of their employment or the results that follow from keeping a job. Work satisfaction is also correlated with how much individuals enjoy going to work, accomplishing their tasks, and receiving recognition for their accomplishments. Workers who feel that work and family are in balance are probably in good physical and mental health and are energetic. They are probably going to be upbeat, have a feeling of self-efficacy, and be psychologically tough. (Vieira et al., 2023). These reasons are consistent with the results of a review study on work-family balance, which emphasizes that people who are content with their work-family balance are able to divide their time and energy between the two, feel independent, and have good spillover effects. (Wayne et al., 2017)

Additionally, studies show that supervision and job happiness are positively correlated. When it comes to the supervisor's capacity to offer both technical and emotional assistance as well as direction on work-related activities, supervision plays a critical function in relation to job satisfaction. This implies that supervisors contribute to high or low morale in the workplace (Mafini & Dlodlo, 2014).

Methodology

The study was conducted by randomly selecting 150 engineers working in various Government Agencies both National and Local Government Agencies all around Mindanao. The respondents were asked to fill out a 30-item questionnaire as a medium for data gathering. The questionnaire and results were then presented to an examiner for evaluation and validation of the contents.

The researchers used an Exploratory Factor Analysis (EFA) for the study. It was used to identify motivational factors among engineers working in government settings. When there is a limited theoretical foundation for determining the quantity and patterns of common components, the compound multivariate statistical procedure known as exploratory factor analysis (EFA) can be helpful in developing scale. It involves a number of sequential and linear processes. (Taherdoost, Sahibuddin, & Jalaliyoon, 2022). The Keiser-Meyer-Olkin (KMO) sampling adequacy measure was used to test the magnitude of partial correlations between variables. To determine the identity of the correlation matrix, Bartlett's test of sphericity was also used. The scree plot graphically depicted the factors that contributed to identifying the work task motivations of engineers in government entities.

RESULTS AND DISCUSSION

This section exhibits the analysis and interpretation of the gathered data.

KMO and Bartlett’s Test

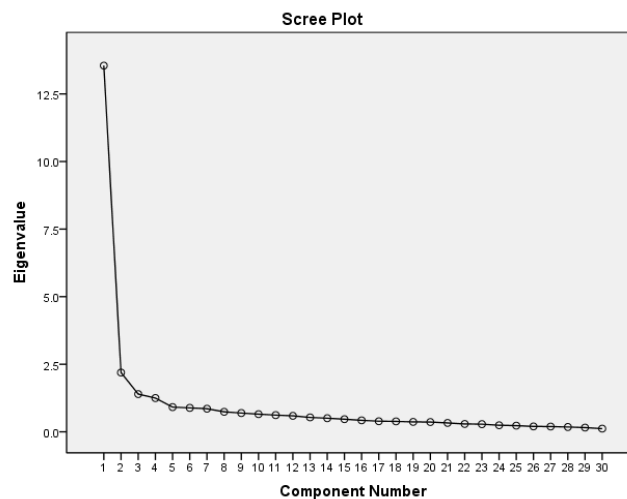
Shown in the table below is the KMO Measure of Sampling Adequacy and Bartlett’s Test of Sphericity. The KMO measures .943 which implies that the samples are in high correlations, that is appropriate for variable analysis that fits the data. As shown, Bartlett's test of Sphericity yields a value of 2957.669 and a level of significance smaller than .001 which signifies the suitability of the data to be processed to factor the work motivations of Engineers in government agencies. Moreover, Bartlett’s test of Sphericity implies to reject the null hypothesis, and conclude that there are determinants for the work motivations of engineers in government entities.

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.943
Bartlett's Test of Sphericity	Approx. Chi-Square	2957.669
	df	435
	Sig.	.000

Scree Plot

Figure 1 depicts a graphical representation of the total variance explained as well as a graph of Eigen values against all factors. It depicts the gradual trailing of the Eigen values and determines the relative fit of each component based on its importance. The graph is especially helpful in determining how many factors will be kept. The point of interest is the flattening of the curve. As can be seen, the curve becomes flatter as it approaches component number 8, which is where the Eigen value less than one begins. The dimension will be discarded if the items in each dimension are less than the minimum. As a result, only four factors were retained as determinants



Component Matrix

Table 2. Rotated component matrix with grouped attributes of "Work Environment"

Factor	Item No.	Attributes	Loadings
Work Environment	23	I am open to positive criticism from my superiors and view it as a learning experience.	0.775
	17	My supervisor obliges me to do my tasks.	0.697
	29	I can provide quality public service/projects to the community.	0.693

	25	It can be seen that engineers have their ways of motivating others to work.	0.691
	24	I help Contractors/workers to achieve tasks necessary to complete the project.	0.684
	22	I am confident with my interpersonal skills to achieve my tasks.	0.676
	14	I feel guilty if I can't accomplish tasks given to me on time.	0.65
	9	I am learning from other people.	0.637
	20	Engineers are mandated to perform their duties.	0.625
	10	I know how to follow the procedures of a certain task.	0.619
	8	I find the task important for the completion of the project.	0.617
	12	I would feel good to be a part of a development in my community.	0.609
	3	I like doing tasks with a team.	0.59
	27	I am aspiring for promotion in a higher position and its respective benefits.	0.577

Work Environment. A positive and supportive work environment significantly impacts employee satisfaction. Factors like workplace culture, relationships with colleagues, and the overall atmosphere play a crucial role.

Keeping in mind the importance of this relationship for organizations, it is defined as the relationship between work satisfaction and performance. Since individual behavior is a complicated phenomenon, the manager might not be able to determine the reason for the employee's lack of motivation and how to influence it. (Usop et al., 2013). Thus, motivation plays a vital role since it might negatively influence performance and because of its intangible nature. Majority of the respondents in this study having greater than 0.5 level of significance in each attribute means that these respondents are relatively satisfied with their work environment. The top two scores having 0.775 and 0.697 respectively are attributed to the guidance and involvement of their supervisors to their work environment and reflects a positive effect for these engineers. Least significant factor based on the results is the aspiration of the individual for a higher position as a factor for their work motivation which would mean that the respondents have varied opinions in this aspect.

Job satisfaction is the fit among an individual's expectations and his or her perception of the job as an entire (Wang & Tran, 2015). Job satisfaction as "the fulfillment acquired by experiencing various job activities and rewards". Many tools are used to retain the best employees but job satisfaction is one of the best. Satisfied employees are also more likely to be creative and innovative and come up with breakthroughs that allow an institution to grow and change positively with time and changing market conditions. The quality or effectiveness of engineers is considered to be associated with their satisfaction towards their profession, satisfaction with their values. Thus, it is clear that an effective and competent engineer will achieve the desired learning outcomes, provided he is satisfied in his profession or job.

With these results, the researchers reject the null hypothesis that work environment has no direct correlation with motivational factors for engineers in the government agencies.

Table 3. Rotated component matrix with grouped attributes of "Work Autonomy and Empowerment"

Factor	Item No.	Attributes	Loadings
Work Autonomy and Empowerment	1	I feel pleasant to carry out tasks.	0.614
	2	Our office encourages us to thoroughly accomplish our tasks.	0.564
	4	I feel very much appreciated when I am given rewards for a job well done.	0.657
	5	My work allows me to have a balanced work-leisure lifestyle.	0.722

	6	It is important for me to carry out a task.	0.629
	7	The task allows me to attain work objectives that I consider important.	0.639
	16	My work allows me to have sufficient family bonding opportunities.	0.541

Work Autonomy and Empowerment. Providing employees with a degree of autonomy in decision-making and enabling them to have some control over their work can increase satisfaction.

Job satisfaction can be defined as an individual's overall attitude toward their work and the discrepancy between the compensation they receive and what they feel they should be compensated (Adenuga 2015). A job satisfaction being "the fulfillment acquired by experiencing various job activities and rewards". It means that job satisfaction can be viewed as an emotional condition of human beings that displays the positive and pleasant experience of a person when he or she loves his or her own job well (Johnson and Sohi 2014). Autonomy and empowerment in work is crucial as it gives the individual his or her set of own responsibilities and the freedom to accomplish them. With the results of significance all above 0.5, the researchers reject the null hypothesis that having autonomy and empowerment in their work has no correlation with work task motivation. With a balanced work-leisure lifestyle having a factor loading of 0.722 and having sufficient family bonding opportunities score of 0.541 while the rest have a range of 0.564 - 0.657 meaning autonomy in carrying out a task in one's own way is important to having a satisfied and motivated individual. Engineer job satisfaction relates positively to participative decision- making, higher autonomy at work, and ultimately leads to positive work environment conditions.

Table 4. Rotated component matrix with grouped attributes of "Peer/Client Relationships"

Factor	Item No.	Attributes	Loadings
Peer/Client Relationships	11	My work provides me extra time to have side hustles for extra income.	0.748
	13	I try not to feel bad if I can't accomplish my tasks.	0.554
	15	Contractors/workers follow tasks given to them.	0.577
	28	I have connections I made through my work.	0.664
	30	I am influenced by my family/peers to become a public servant.	0.643

Peer and Client Relationship. Healthy and positive relationships with colleagues, supervisors, and the overall team significantly contribute to employee satisfaction.

Many public service professionals, social connections at work are a crucial aspect in job satisfaction. As such, synergy and departmental members' cohesion provides greater job satisfaction amongst employees. Studies demonstrate that working in a team is directly related with the possibility to learn new things as well as job enlargement factors which have been discovered to be favorably associated with job happiness (Mafini & Dlodlo, 2014). Having nice and helpful colleagues further contributes towards higher pleasure in the workplace. Raza mentioned in their study that employees need to choose to take part and to experience a sense of accomplishment, and have numerous opportunities to experience with their peers (Raza et.al, 2015). While some may argue that this factor would be dependent on each individual. Majority of the respondents particularly in item 15, 28 and 30 rated these items as significant ranging from 0.577 – 0.664). Item 11 may not directly indicate any form of relationship but having side hustles might mean that that certain respondent was engaging with other people thus establishing its involvement, especially when its component matrix has a loading of 0.748 making it the most significant item under this factor. This factor could deeply affect an individual particularly one in public service where one's clients are the citizens they are serving.

Table 5. Rotated component matrix with grouped attributes of "Opportunities for Growth and Development"

Factor	Item No.	Attributes	Loadings
Opportunities for Growth and Development	18	I am paid to accomplish my tasks.	0.519
	19	My work equips me with knowledge and skills to further my career development.	0.747
	21	I have developed a deep attachment to my work.	0.658

Opportunities for Growth and Development. Employees are more satisfied when they have opportunities for career advancement, skill development, and continuous learning within the organization. It has been suggested that self-actualisation in the workplace can only be realized through the establishment of possibilities for employee advancement (Mafini & Dlodlo, 2014). Personal growth as an engineer is important as one will strive for a better career while having a richer mind. These are acquired through positive experiences and would make a more resilient and responsible employee. While items 18, 19 and 21 indicate that work motivation through personal development is particularly significant to an individual with significance levels ranging from a less significant score of 0.519 to a highly significant value of 0.747.

STUDY FRAMEWORK

Presented in Figure 2 is the Motivational Framework of Engineers in Government Entities. This was developed based on the findings of the researchers that the determinants of engineer's work task motivation are Work Environment, Autonomy and Empowerment, Peer/Client Relationship and Opportunities for Growth and Development.

CONCLUSION

The discrepancy between the degree to which a work role produces a particular outcome and the intensity of an individual's corresponding desire or purpose determines one's level of job satisfaction. "The entirety of a person's job circumstances that enable them to enjoy their work environment and be eager to go to it each day without feeling resentment is known as job satisfaction." (Srinivasan and Ambedkar 2015). Through this study, it was found out that there are multiple factors affecting motivation among engineers working in government entities wherein four were identified as primary factors, namely, one's Work Environment, Autonomy and Empowerment in the workplace, Peer/Client Relationship and Opportunities for Growth and Development. These factors, albeit varying in levels of significance, contribute to one's work task motivation.

RECOMMENDATIONS

Managerial Recommendations: As managers, these factors should be deeply considered in drafting company policies particularly those in the government entities to enhance performance and satisfaction of their engineers.

Areas for Further Research: As this was a cross sectional study that considered a Quantitative approach, data might have been limited by the items in the questionnaire. A long-term study must be conducted periodically to achieve coherent results over time. It is also recommended to use a Qualitative and Quantitative approach in survey and interview formats so that particular concerns by each individual engineer could be further identified and categorized as a factor.

REFERENCES

- [1] Brewer, M. B. (2013). *Social identity and social emotions: Toward new conceptualizations of prejudice*. In M. P. Zanna (Ed.), *Advances in experimental social psychology* (Vol. 48, pp. 379-440). Academic Press.
- [2] Perry, J. L., & Vandenabeele, W. (2015). *Public service motivation research: Achievements, challenges, and future directions*. *Public Administration Review*, 75(5), 692-699.
- [3] Kaditong, M.L., Unos, M.A., Antok, T.D., Midzid, M.A.E. (2017) *Teaching Performance And Job Satisfaction Among Teachers At Region XII*. *Proceedings Journal of Education, Psychology and Social Science Research*. Vol04:Iss01:Pg113. <https://doi.org/10.21016/4.17.113122.1330>
- [4] Mafini, C., & Dlodlo, N. (2014). *The Relation between Extrinsic Motivation, Job Satisfaction and Life Satisfaction among Employees in Public Organization*. *SA Journal of Industrial Psychology*, 40, Article No. a1166, 13p. <https://doi.org/10.4102/sajip.v40i1.1166>

- [5] Vieira, J., Silva, F., Teixeira, J., Menezes, A. & de Azevedo, S. (2023) *Climbing the ladders of job satisfaction and employee organizational commitment: cross-country evidence using a semi-nonparametric approach*, Journal of Applied Economics, 26:1, 2163581, DOI: 10.1080/15140326.2022.2163581
- [6] Taherdoost, H. and Sahibuddin, S. and Jalaliyoon, N. (2022), *Exploratory Factor Analysis; Concepts and Theory*. Advances in applied and pure mathematics, 27, 375-382
- [7] Wang, L., & Tran, T. (2015). *The Study of Teachers' Job Satisfaction in Junior Secondary School Administration System: A Case Study of Vietnamese National Secondary Schools' Teachers*.
- [8] Adenuga, O. A. (2015), *Impact of Occupational Stress on Job Satisfaction and Mental Health of First Bank Employees: Implication for Personnel Psychologists*. Journal on Business and Psychology.
- [9] Johnson, J. S., & Sohi, R. S. (2014). *The curvilinear and conditional effects of product line breadth on salesperson performance, role stress, and job satisfaction*. Journal of the Academy of Marketing Science, 42(1), 71–89. <https://doi.org/10.1007/s11747-013-0339-4>
- [10] Srinivasan, S., & Ambedkar, V. (2015). *Job satisfaction towards teaching profession among the higher secondary school teachers*. International journal of applied research, 1, 66-68.
- [11] Ali, M., & Raza, S. A. (2015). *Service Quality Perception and Customer Satisfaction in Islamic Banks of Pakistan: The Modified SERVQUAL Model*. Total Quality Management & Business Excellence, 28, 559-577.
- [12] Casper, W., Vaziri, H., Wayne, J., DeHauw, S. & Greenhaus, J. (2017). *The Jingle-Jangle of Work-Nonwork Balance: A Comprehensive and Meta-Analytic Review of Its Meaning and Measurement*. Journal of Applied Psychology. 103. 10.1037/apl0000259.