



Characteristics of Factors Affecting Employee Experience in Software Project Management

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Abstract:

The objective of this article is to survey the key attributes that affect the performance of project managers in software organizations. Construction project managers are more likely to work effectively when they have job satisfaction. This research aims to identify job and personal characteristics that significantly affect construction project managers' satisfaction with their jobs and work outcomes. The objective is to recommend ways to design jobs so that superior job and work outcomes are achieved and job satisfaction is attained. Data were collected from 120 construction project managers using a structured questionnaire, and data were analyzed using Spearman's correlation. It showed that significant job satisfaction was achieved, and projects achieved significantly good outcomes, and clients were satisfied. The finding reveals several job characteristics that give construction project managers the job satisfaction, the most important are salary, work autonomy, and task significance. Personal characteristics that lead to job satisfaction for construction project managers are job fit between the manager and the firms and the presence of promotion and self-development opportunities. When designing jobs, it is recommended that these characteristics be incorporated so as to enable construction project managers to experience job satisfaction and produce good work outcomes. Relevant findings as to the

technical and behavioral competencies of the project manager and their relationships to project success were also manifest.

Keywords: project manager; manager performance; manager roles; management challenges

Introduction

The Organisations in the software industry are continuously being pushed to adapt and adopt new practices and processes to move away from the traditional approaches which encapsulate operations in the industry. Historically the software industry has had a negative reputation with adopting new methods or processes despite legislative and competitive incentives. Practitioners within the industry still resist to readily adopting these new practices (Longwe, T., Lord, W.E. and Carrillo, P.M., 2015).

Culture in the context of an organisation has been described as, the collectively bound actions of individuals which hold an organisation together (Cheung et al. 2011). Researchers have placed great emphasis on the impact of culture on the internal and external operations of an organisation, culture is

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important because it influences the attitudes and behaviours which filter into decision making. Furthermore, other researchers have suggested that competitive advantage and operational effectiveness can be sustained by culture (Slater S.F, 2011).

Many software employers struggle with organization turnover challenges despite their use of wide-ranging organization retention initiatives. Emphasizing a new Talent Centered project Leadership approach, this article relies on a theory-building methodology that leverages the theories of career choice and Herzberg's motivation-hygiene, empirical literature that examines the differentiated needs of software employees throughout the stages of their career, and modern strategic human resource management practices, to argue that software employees should intentionally design a supportive employee experience for project support. Guidance is provided for the addressing of staffing issues in hard-to-staff software issues, accounting for the total employee experience journey from entry to relieving (Tan T, 2020).

The key to the company's survival, profitability, and growth is the study of in a highly competitive marketing environment and its ability to identify and satisfy unfulfilled consumer needs better and sooner than competitors. Thus, consumer behaviour helps in achieving marketing goals. The study of software employee behaviour is not useful for the company alone. Knowledge of project is equally useful for organization and end user to perform their tasks in project requirements successfully. Consumer behaviour thus

improves performance of the entire distribution system. The study of buying patterns also helps to know what the projects prefer more and what they are seeking to buy and what products are sold out and which products are lagging in sale.

Consumer behaviour has been always of great interest to marketers. The knowledge of consumer behavior helps the marketer to understand how consumers think, feel and select from alternatives like products, brands and the like and how the end users are influenced by their environment, the reference groups, family, and salespersons and so on. A software project is influenced by cultural, social, personal and psychological factors. Most of these factors are uncontrollable and beyond the hands of organizations but they have to be considered while trying to understand the complex project behavior of the end users. Consumer decision making process involves the consumers to identify their needs, gather information, evaluate alternatives and then make their buying decision. The project behavior may be determined by economic and psychological factors and are influenced by environmental factors like social and cultural values.

The consumer decision making behavior is a complex procedure and involves everything starting from problem recognition to post-purchase activities. Every consumer has different needs in their daily lives and these are those needs which make them to make different decisions. Decisions can be complex, comparing, evaluating, selecting as well as purchasing from a variety of products depending upon the opinion of a consumer

over a particular product. This renders understanding and realizing the basic problem of the consumer decision making process for marketers to make their products and services different from others in the marketplace.

Employees are crucial element of a firm. They are the one which defines the performance of an organisation and steers the organisation towards its vision. By motivating the workforce and providing them with their requirements helps in the performance and company's development (Kurniawati & MeilianaIntani, 2016). The competitive environment (Zahra & Bogner, 2000) which exists inside the software business makes it more crucial for the firm to encourage its software engineers via various means such as incentives, prizes, and others.

Nowadays, the engagement and performance of the team plays a significant function for getting the tasks done in a project (Joshi B.R, 2018). Like an individual, team have diverse personalities and capacity to get the work done. According to Innes J.E and Booher D.E (2003), a team is defined as a leadership positions, collective work outcomes, and incentive for open minded dialogue, collective effort and issue resolution. This holds true for the creation of software as well as a group in which all of the programmers are members creating an application, delivering a service, or providing a product other to-do list outlined in their daily or weekly to-do list. Rapid growth in the software business has been occurring during the last several years. The minimal amount of money needed to build.

The proliferation of software has led to a wide range of businesses and issues. When innovation is driven by unique and

complicated, performance-driven multilayer products in a highly competitive market environment is developed (Tidd J, 2001). As a result, software organisations are unlike any other working conditions in industry and the final product are quite different an employee's engagement and initiative are taken into consideration may include in their endeavour. The business need a new strategy in light of the shifting landscape and increased competition in order to expand and maintain in the long term what you're doing.

In Nepal, large software businesses are growing in an exponential pace (Regmi N and Pandey S.B, 2015). The software companies are giving services and producing application for both local and international parties. Basically the off-sourced software are mainly from nations like US, India and European countries (Chakraborty A & Benjamin S, 2020). For which, the firms are even following the worldwide standards and developing practises such as Software Development Life Cycle (SDLC), Agile concepts and Scrum techniques. Accordingly, considerable initiative has been done to enhance their personnel standards and progress. This study further examines and analyses the elements impacting the performance of the employee to bring fresh insights and help in the decision making of the management. The future of software business is filled with increasing problems and extraordinary growth (Markus M L & Tanis C, 2000).

It is necessary to encourage the growth of employees. We will be better served if we conduct a thorough evaluation of software developer performance to get to know their habits and desires. There are a slew of aspects

that contribute to the complexity of a person's life: their surroundings, pay, work-life balance, leisure time, and more may be analysed in detail. An examination of employee growth and the variables that encourage such behaviours is the focus of this study. Both the individual and the company benefit from a thorough examination of the situation and a well-informed decision-making process. Management, which over the long run offers sustainable and long-term gain the ability to manage well.

Brief review of related literature

The worldwide IT area's financial plans are expanding step by step, showing an expanded intricacy of issues that are addressed by fostering the program. Organizations expect to diminish program refinement by lessening the cost of creation and upkeep. Tech intricacy has two sorts: unusual intricacy and basic intricacy. Unintentional complexities are the assortment of issues made by specialized instruments that can be addressed by the computer programmers, while the topic creates central turmoil and can't be ignored. The idea makes it hard to limit the fundamental intricacy; nonetheless, accidental intricacy might be moved to any programmed framework. Organizations and designers have looked for this strategy and set up different programming improvement methods (Bombard Y., et, al., 2018). The organization administration design reacted with the rise of a way of thinking of web administrations to expanding industry requests and client disappointment with programming wellbeing and unwavering quality available. Web workers were for the most part intended to incorporate far off framework that may have a

place with different proprietors. Scientists says that the organizations are programming administrations that give a clear organization approach that advances quick appropriated application fabricating and are free, autonomous segments (Guzzi E A & Tibbitt M W., 2020). In any case, for instance, after some time, a solitary information base could turn out to be too huge for a solitary help to store and measure. This has made more than one assistance be isolated and arranged. The "promising model of distributed computing that could empower organizations to adapt spryly and monetarily with market vacillations" then, at that point came to fruition and was generally embraced by programmers. The Cloud processing arrangement permits designers to bypass actual equipment limits and use virtualized administrations, for example, extra space or CPU time. Such advantages have permitted one application to be carried out as a progression of isolated frameworks, where each committed activity has its own responsibility and can be naturally worked. Thusly, designers will lessen the intricacy of the development by changing accidental intricacy into foundation and focusing on the basic intricacy of the issue. The strategy characterized prompted the formation of the plan for the micro service (Ortiz-Amaya J et.al., 2020).

The performance of an organisation has a significant impact on the development and success of a business. Sustainable growth may be achieved through an organization's ability to consistently provide high-quality results. Since performance evaluation has been a complex problem, financial metrics have been

employed as an element to evaluate performance. However, a conceptual investigation and findings have been made. Discovered a number of variables associated with performance evaluation. According to a large number of academics, performance assessment tends to be constantly updated and changed.

As discovered by Taouab O & Issor Z (in 2019), the essential Information technology, clients, the market, public policy and legislation, new industries, the nature of employment, and an uncertain future are all factors that are influencing the transformation. Employee happiness is founded on a thorough understanding of the company's objectives. Definition and goals of work, as well as appropriate benchmarks for inspiring a worker under the constraints of time and money. In addition, there are a variety of ways to communicate, including verbal and written, horizontal and vertical, formal and informal, and oral and written. A reward and incentive-based system may forecast individual performance and employee behaviour. The use of an MBO-based system opens up new possibilities for growth and survival for the business. The expansion an increase in productivity is a direct effect of staff development. The development of the organisation as a whole.

Worker development, initiative, and the way they approach their work are all important factors to consider. The raising of the standards for employee performance improves as a consequence of employee training as a result, a business might get an effective growth.

The primary determinants of employee performance, according to Joshi B R (2018), are attention to detail and employee well-being. Well-being of employees includes their physical and psychological well-being of a worker, which aids in gaining insight into the monetary implications (Esmaili S A H et al., 2020). Motivation is influenced by a variety of factors elements such as the work atmosphere, team, compensation, and incentives various factors that motivate the workers. Periodic correction and revision are a result of meticulous attention to detail of effort Adaptability, learning, job happiness, organisational commitment, competitiveness, flexible working hours, and other secondary elements all play a role in determining a person's success in the workplace. Absenteeism and the external environment taking into account all aspects these elements. It has been developed by Tran K T et al. (2018), a methodology to increase employee performance and gain consistent high-quality output from the workforce.

Research gap

To date, there have only been a few of studies focusing on the impact of aspects such as job satisfaction (França, C et.al, 2018), employee stress management (Matturro, G, et.al, 2019) and project management (El Bajta, M, 2018) on software employee experience. Many research have been done on project management in relation to different software projects and their testing kinds.

Statement of the problem:

The most significant factor in software project management is employee project experience, which helps firms keep their current projects and attract new ones. There are several

variables that affect the project experience for employees. Personal, social, cultural, and psychological aspects all play a role in the behaviour of employees on any given project or service. The purpose of this research is to determine the influence of employee experience on software project management as it relates to personal, social, cultural, and psychological aspects.

Research questions

In SDLC software project management, what is the demographic profile of the current employee's demographics

In what ways does the employee's behaviour change as he or she goes through the various stages of the job?

Which aspects of an employee's experience determine whether or not they choose a project for their company?

To what extent does an organization's software project staff have a positive or negative experience with the project?

Objectives of the study:

1. To examine the current SDLC software project management workforce's demographics.

Understanding how an employee behaves while going through the various stages of the role they've been assigned

In order to explain the elements that influence the selection of a project by the employees of their company.

To look at the aspects that affect the employee experience in the software project's organisation.

To make recommendations for Software employees to improve the project experience in organisations, as well as to help them do so.

Hypothesis

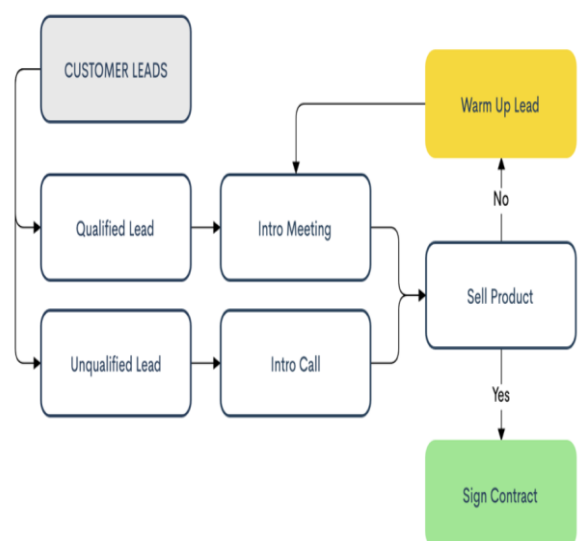
H1: what is the impact of individual differences in an employee's work environment on a company's software development efforts.

H2: how do social aspects affect the software project experience of employees in a company?

How does an organization's culture affect the success of a software project?

Employees' psychological aspects can have a significant impact on the success of a software project in a business.

Conceptual model of the study



Methodology of the study:

Study Design	
Research Type	Descriptive Research
Study Type	Empirical Study
Database	Primary Data based study
Data Capture Instrument	Structured questionnaire
Sample frame	Employees working in software projects
Sample Size	400
Sampling Method	Purposive Sampling
Target Respondent	Employees working on projects in software organizations
Study Area	Software organizations
No of Hypotheses	4
Statistical Tools	Chi-Square, Regression, Correlation, Structure Equation Modelling (SEM).

Research Design: A systematic method to data collection, variable definition, and analysis is known as research design. Researchers in this study are referring to the major method used to collect data from a pre-selected sample. The methodologies, materials, and instruments utilised to refine the data are all included in the primary research design.

Sample Design: The design of a sample is an important component of statistics since it gives statisticians a concept of how to choose samples from the population. There may be a mathematical relation that provides the

possibility for every given sample to be drawn in a sampling style. Various sampling strategies, such as simple random sampling, stratified sampling, and cluster sampling, are used to choose relevant samples. Non-random purposive sampling was used to distribute the questionnaire to the participants in this study.

Sample Size: The population must be taken into account while determining the sample size. Those working on software projects are the target audience here.

Formula to be used for infinite population:

$$s = \frac{z^2 * p (1 - p)}{e^2}$$

Where as

S = Sample size (to be found)

z = z- score, that is confidence level. For 95% value of z will be 1.96 (Cochran, 2007)

p = population proportion (50%= 0.5)

e = acceptable error (the precision) that is 0.05

Hence, according to formula given

$$s = \frac{(z - score)^2 * p (1 - p)}{(marginoferror)^2}$$

$$= \frac{(1.96)^2 * 0.5 (1 - 0.5)}{(0.05)^2}$$

$$= \frac{3.8416 * 0.25}{0.0025} = 384.16$$

The required sample size is 384 with the Margin of error less than 5% or 0.05. We consider **the sample size of 400** which is closest to the required sample.

Multivariate Analysis: For example, in multivariate analysis (MVA), more than one statistical result variable is observed and analysed at a time, using the multivariate statistical concept. With this method, trade

studies can be carried out across several dimensions, taking into consideration all variables and their effects on the responses of interest. An examination of data that incorporates more than one sort of measurement or observation using statistics.

Factors to consider: When many variables or measures are interdependent, this statistical technique can be utilised to identify the underlying components or forces. It is difficult, if not impossible, to measure variables in the social sciences, especially in behavioural research. Latent variables, as they are commonly known, can be quantified using qualitative propositions to capture respondents' perceptions. The resulting factors facilitate the process of interpreting the measured values. In calculating factor loadings, the degree of connection between a variable and a factor is taken into account. A variable's representativeness as a function of loading is what allows us to decipher how each variable contributes to our understanding of a given factor. As a last point, the squared factor loadings illustrate how much variance in an original variable may be explained by a factor, as well. Each observation on a factor contributes to the factor score, which is a total of all the factor scores. A factor score conceptually expresses a few percentage points of how strongly each observation is linked to a factor that includes variables. The factor score will be higher (lower) if the variables with high factor loadings have higher (lower) values.

Factor Analysis: Confirmatory Factors All disciplines of psychology, including educational research, are increasingly turning to CFA as a powerful and adaptable statistical technique. Modeling the link between

observed indicators and underlying latent variables is the emphasis of CFA (factors).

In structural equation modelling (SEM), a wide range of mathematical models, computer algorithms, and statistical methods are employed to fit networks of constructs to data. Route analysis, partial least squares path modelling and latent growth modelling are all part of the SEM methodology.

Multiple correlation coefficients, in regression analysis, represent the degree of agreement between actual and projected values of the dependent variable. Multiple Regression is a statistical technique that allows for the inclusion of extra variables and the estimation of the impact on employee satisfaction that each variable has. In order to measure the impact of multiple influences on a single dependent variable, it is a flexible tool.

The ideal reading is around 70.

A simple tabular analysis is utilised to look at the socio-economic status of employees in the workplace. A bi-variate table can be used to show how specific variables are connected.

Analyzing the strength of a correlation between two quantitative variables is done using the statistical method of correlation. If two or more variables are highly correlated, this indicates that the variables are strongly linked together, while a weak correlation indicates that the variables are not linked at all.

Analysis of a bivariate table's Chi-Square test is performed to determine if there is a correlation between variables.

Analyzing means and proportions: The vast majority of the analysis relies on comparing means (average) and proportions. The analysis also uses and explains the test for proportional equality.

Using the standard deviation, you can see how sampling bias affects various variables.

Calculating the coefficient of variation is made easier with the help of the standard deviation. The coefficient of variation can be used to determine which propositions are more or less consistent based on their coefficient of variation. As a result, we can better understand the diversity in the ranks of the average level of perception.

Scope and limitations of the study

The investigation is restricted to a certain geographic area. Employee project experience is influenced by a variety of personal, social, cultural, and psychological elements, according to the theory behind this research. However, there may be additional elements that influence employee software project experience that are not included in the research. However, it is possible that there are many more workers that work on a software project than 400, therefore the sampling error in this study is moderate to large.

Novelty of the Study

This study's findings are very beneficial to software companies since they help them choose an employee for projects based on their previous work history. Increasing project efficiency is now the most difficult problem facing every software company hoping to fulfil its organisational objectives and be the

best in its field. When giving a project to an employee, it is sometimes difficult to estimate their talents. Employees' experiences in a company may be influenced by a variety of factors, and this research aims to identify such factors.

Conclusion

Every company relies on its employees to help it grow and thrive. Maintaining a healthy work environment and gaining a clear understanding of employee behaviour as well as interdepartmental communication is critical. The same is true in the software sector for the programmers. An awareness of the software developer's needs and requirements is critical for a successful project they need to put up their best effort in order to reap the rewards. The research presented in this article was based on a number of key considerations. Clarke and O'Connor formulated (2012). The most important aspects to consider while looking for a software developer in Nepal newer technology, connection, and a reduction in technological costs all contribute to knowledge, dedication, and changeability team size, qualifications, and practicality are all factors to consider stability. Weighing the responses allowed us to categorise the data to every aspect of a given scenario, with the most weight given to the fact that almost universally acknowledged as the underlying reason of their poor performance by the software engineers who participated in the surveys. While organisational rigidity, the scale of the organisation, and the use of applications the designers have little care for dimensions. The number one concern of the Technology, management, operation, application, personnel, and organisation are listed in that

sequence. In this regard, the business might provide training and oversee operations addressing certain issues and gaining a grasp of their employees' demands. The group has received the least positive reviews. Due to the fact that a majority of the programmers do not adhere to organisational guidelines. Nepal's software sector is still developing so many changes are taking place in a short amount of time (Shakya, P. and Shakya, S., 2020). It will be helpful to keep track of the variables influencing software developers' behaviour and satisfaction levels. Workers' needs and expectations are better understood by supervisors make a well-thought-out choice. As a result, long-term success in the highly competitive field of software development the productivity and contentment of a company's workforce are two important determinants of its future development.

Employee performance is a dynamic process that changes over time depending on a variety of factors, including the industry, location, and more. Employee performance may be further studied by adding additional variables and measuring the factor's divergence from the initial value with relation to time or change in location. All of the new aspects, enhancements, and corrections should assist adapt to the changing requirements of employee management and better understand their demands, which will eventually benefit Industrial leaders in making better managerial decisions.

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