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Classifying academic staff according to their satisfaction as part of quality improvement project

Hamed M Almalki *

Department of Industrial Engineering, College of Engineering, Taif University Taif, Saudi Arabia.

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Abstract

Accreditation by a reputable organization, such as the National Commission for Academic Accreditation and Assessment (NCAAA) or the Accreditation Board for Engineering and Technology (ABET), is a requirement for academic institutions to provide superior educational services. The challenge of quality improvement (QI) in education is still very real. Effective quality procedures in academic institutions depend on a number of quality factors, including work satisfaction and effective communication. Positive academic satisfaction and strong communication skills will not only improve the working atmosphere and boost productivity, but they will also increase job satisfaction. This quantitative research study's objectives are to examine organizational communication, define communication styles, and gauge work satisfaction at an engineering college. An online survey that is based on a questionnaire is used to gather information about job satisfaction. The perceptions of the respondents were gauged using five-point Likert-type scales. The scope of the study encompassed the entire population, or the entire academic staff employed by the college. The academic staff is divided into groups using factor analysis, which subsequently identifies a number of intriguing QI topics. The findings of this study also provide credence to the idea that academic staff members who have supportive leaders, good working conditions, and a maximized feeling of perceived job security exhibit much better levels of general academic job satisfaction. The authors feel that the same methodologies and assessments can be utilized in any kind of study, even if this case is focused on a single college of engineering.

Keywords: Factor Analysis; Quality Improvement; Academic Staff; Job Satisfaction; Communication Levels

1. Introduction

Numerous educational experts have suggested that Higher Education Institutions (HEI) promote quality assurance and/or quality management in order to make multiple education concern areas, such as managerial, cultural, and psychological factors, function in harmony [2]. The major goal is to constantly advance education. The quality improvement of higher education is a key objective of any nation strategy since education, research, technology, and human resources have become essential components of economic growth and social advancement. Despite the quality concept's positive meaning, there is still disagreement on how it should be set up.

According to Harvey and Stensaker [1], tools and instruments for quality management may not function as intended or even negatively affect organizational processes because they are implemented top-down, disregard individual staff members' autonomy, and see employees as passive recipients of policy rather than active participants. A recent review by Bendermacher et al. [2] sought to identify the organizational context elements that promoted and inhibited quality culture, its operating processes, and associated results. It was determined that communication and leadership play a crucial role in tying structural, managerial, cultural, and psychological factors together. Additionally, [2] stated that effective communication is thought to be essential for disseminating quality initiatives and policies, evaluating results,

* Corresponding author: Hamed M Almalki

Department of Industrial Engineering, College of Engineering, Taif University Taif, Saudi Arabia.

and learning about staff beliefs and attitudes. Additionally, the processes of a quality culture foster leadership, empowerment, and expertise among employees. Positive effects of quality on employee happiness and ongoing education process development are two more fantastic advantages of this technique. In this context, it is essential for successful educational processes in HEIs to introduce a specialized evaluation system, quality assurance practices, and long-term planning [3].

A successful educational program depends on many crucial factors, including effort, commitment, and—most importantly—the professionalization of the entire teaching team. Effective HEIs depend on the commitment, retention, and work happiness of their academic staff. Positive academic satisfaction and communication are signs of a better working environment at the institution. Along with improving the learning environment and boosting university production, it will also increase the job satisfaction of academic personnel. Additionally, it becomes important for communication and job satisfaction since shared ideals and ideas, when combined with a favorable atmosphere, carry a positive energy for success.

Job satisfaction has sparked a lot of interest in the field of study, partly because it is stated that it is both a significant connected component and an individual outcome in the literature on human resources management. The perspectives, attitudes, and impressions of their human resources are the only foundation on which HEIs can succeed in this field [4]. There is growing interest in employee happiness in higher education, particularly in relation to quality management, despite the fact that most of the study in this area has been concentrated on for-profit industrial and service businesses. This growing interest is caused by the fact that HEI is "labor heavy," as a significant amount of resources are given to employees and their effectiveness is heavily reliant on the human aspect. According to Kusku [5], who agrees with this line of thinking, university staff happiness is a crucial component in achieving university responsibility and excellence. Particularly, higher levels of HEI quality are positively correlated with employee happiness.

Although organizational communication is a hot topic, there seems to be little study on the relationship between work satisfaction and communication among academic staff members in HEIs. The findings of this survey will help close any knowledge gaps about the factors that influence staff members' satisfaction with their jobs and communication. This could assist HEIs improve their communication methods and, inadvertently, aid in improving how well organizations run. This quantitative research study's objectives are to examine organizational communication, define communication styles, and evaluate work satisfaction at an engineering college. It will present a practical method for developing and implementing a Quality Improvement (QI) project in a research study of HEI.

The following is the paper's outline: Basic satisfaction dimensions, primarily job satisfaction and communication satisfaction, are described in Section 2. Then, in Section 3, the applicable approach is provided. After then, Sect. 4 presents the results analysis and discussions. Sect. 5 draws a conclusion as a last point.

2. Satisfaction Dimensions

Many scales have been established to measure the various aspects of employee satisfaction, according to the literature. Among the most popular are the Minnesota Satisfaction Questionnaire created by Weis et al. in 1967 [6], the Job Descriptive Index created by Smith et al. in 1969 [7], and the Job Diagnostic Survey created by Hackman and Oldham in 1975 [8]. Later, these scales were utilized in research either precisely as written, with fewer items included, or with certain items modified to fit the topic under investigation.

These fundamental scales have been utilized by numerous researchers from various fields to group the satisfaction factors connected to the study's aims in various ways. Management satisfaction, communication satisfaction, colleague satisfaction, job satisfaction, physical environment satisfaction, salary and other material benefits satisfaction are the satisfaction factors that are most frequently addressed in studies.

Organizational communication, which has been a part of work environments since the dawn of time, is more crucial than ever in today's complicated workplaces. The impact of excellent communication on a wide range of organizational elements is undeniable, and it can help the organization succeed more [9]. An environment of involvement, motivation, trust, and open sharing of ideas can be developed with the aid of effective internal communication. Miscommunication due to insufficient effective communication could compromise the organization's ability to operate efficiently.

When assessing the effectiveness of communication in businesses, earlier research frequently focused on the entire communication rather than viewing organizational communication as a composite of various characteristics. In order to comprehend the rapidly changing world, Miller asserts that researching organizational communication requires a

diverse approach [10]. Similar assertions about the complexity of communication satisfaction were made by Downs and Hazen [11].

The Communication Satisfaction Questionnaire (CSQ), created by Downs and Hazen in 1977 [11], is the scale that is most commonly used by various kinds of companies to evaluate communication satisfaction. Through factor analysis, Downs and Hazen [11] created eight characteristics that influence employee communication satisfaction. The eight elements are: organizational integration, media quality, horizontal and informal communication, organizational perspective, relationship with subordinates, relationship with superiors, communication climate, and personal feedback.

According to several studies, including [12] and [13], job satisfaction and communication satisfaction are related. The degree of employee satisfaction in their firms has been linked, among other things, to a leader's style. Employee happiness with their jobs and with communication is proven to be influenced by the supervisor's communication skills. In 1986, Pincus [14] found that top management communication, supervisor communication, the atmosphere of communication, employee feedback, and the climate of communication among staff members are crucial components for nursing work satisfaction. Goris, et al. [15] showed that employees connected their work, supervision, compensation, promotion, coworkers, and overall satisfaction with communication satisfaction when examining different aspects of job satisfaction and compared them to the total communication satisfaction. Organizational communication and work satisfaction are frequently examined as an overall factor or in more detail as individual elements in research.

The following are the main conclusions of this quick literature review. (1) Neither the various job satisfaction dimensions nor the various communication satisfaction dimensions have an exhaustive measurement guide. (2) Every researcher focuses on a particular case study and completes a particular questionnaire. (3) Principal component analysis and factor analysis are the two most popular techniques for multidimensional analysis.

3. Proposed Method

The questionnaire-based study can be made in seven steps, which often involve the following.

- Determine the necessary goals from the questionnaire.
- Convert goals into a series of questions and inquiries.
- Creating the questionnaire's final design and text.
- Gathering the questionnaire's findings.
- Processing the information gathered and identifying the areas that want improvement.
- 6- Creating an action plan from the highest authority and ensuring that it is carried out by the deadlines.
- 7- Repetition of the first six steps to guarantee ongoing improvement.

This paper addresses the fifth step. Since there are some cultural differences and the conditions and working environment of state institutions differ from those in other countries, a novel questionnaire—mentioned in the Appendix—was employed for this research. The questionnaire was created as a result of thorough data gathering, which included reading relevant studies, interviewing some academic staff members, and conducting the study at the university.

A biographical description of the department and the number of years of experience in the employment position were sought in the first section of the questionnaire. The following five segments were included in the second section's 27 items: The following five scales are used: Scale 1: Communication in College (7 items), Scale 2: Communication in the Department (4 items), Scale 3: Faculty Satisfaction (6 items), Scale 4: College Evaluation (4 items), and Scale 5: English Language Usage (6 items). On five-point Likert-type scales, participants were asked to rate how much they agreed with each statement's description of each of the five sections (ranging from strongly disagree to strongly agree).

The scope of the study encompassed the entire population, or the entire academic staff employed by the college. Achieving a high level of relevance and reliability was the goal. The mentioned institution had 86 academic faculty members. Nevertheless, 79 of the surveys were answered despite the low number. These data show that 92% of the respondents responded.

This survey is created using Google Forms and then distributed to all academic staff members using their email list. Data were then cleaned and saved to Microsoft Excel before being sent to IBM SPSS version 20 for analysis. We performed both descriptive and inferential statistics. For all Likert scale instruments, the Principal Component Analysis (PCA) was

used to extract component(s) for each of the scales and have factor scores, allowing the variables to be treated as continuous during subsequent analysis.

For each scale created under the presumption that it will impact employee happiness, as in [12] and [16], factor analysis was conducted. Factor analysis aims to deliver more significant and condensed data based on relationships between elements. Following factor analyses, content analysis was performed on the variables (items) in each sub-factor, and the sub-satisfaction dimensions were labeled.

PCA is then utilized for each scale. In fact, the principal component analysis (PCA) is a statistical method that transforms a series of observations of potentially correlated variables (entities that individually take on different numerical values) into a set of values of linearly uncorrelated variables called principal components. The relative scaling of the original variables affects PCA. A dot is used to represent each question in a two-dimensional scatter plot when doing graphical analysis. The examination of scatter plots allows for grouping of academic staff.

4. Results and discussion

Since all the scales used were developed through the use of the relevant literature, their ‘content relevance’ is considered to be appropriate. Explanatory statistics concerning the scales are given in Table 1.

Table 1 Explanatory Statistics Related to Scales

	Satisfaction dimensions	Number of Items	Number of factors	KMO _b	V _c	Alphad
Scale 1	Communication in College	7	2	0.823	67.76	0.782
Scale 2	Communication in the Department	4	1	0.674	68.63	0.823
Scale 3	Faculty Satisfaction	6	1	0.842	61.04	0.871
Scale 4	College Evaluation	4	2	0.577	71.39	0.541
Scale 5	English Language use	6	2	0.537	60.54	0.592

Notes: a All items were prepared with a five-point Likert scale; b KMO Kaiser-Meyer-Olkin measure of sampling adequacy for factor analysis; c Variance explained; d The alpha coefficient of Cronbach was used for reliability of the scales

Firstly, the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy for factor analysis of the determined scales was found to be within acceptable limits (Table 1). Secondly, the variance percentages of all scales developed were found to be over 55% (Table 1). This shows that only a small percentage of the total variance of the developed scales can be explained by other variables.

Finally, the Cronbach Alpha Coefficient, often used in this kind of studies, was used to determine the reliability of the scales. The scale reliability coefficients were over 70% (Table 1), for Scale 1, Scale 2 and Scale 3. This result is considered statistically very adequate as mentioned by Küskü [12]. However, the scale reliability coefficients for Scale 4 and Scale 5 were found to be over 50%. Because of lack of reliability of the scales, the results relating to these two scales are not presented in this work and will be more studied in our research perspective. The following statistical analysis of the results will focus only on Scale 1 and Scale 3.

4.1. Results of the Communication in College (Scale 1)

The result of applying the PCA to the Scale 1 shown in Fig. 1 The scatter plot (Fig. 1) indicates the relationship between questions and can classify academic staff mainly in two groups. It should be noted that CC1, CC2, etc. are the abbreviations on the questions of scale 1 (Communication in College) are defined in the Appendix.

Group 1 agree the following proposition: “As a Professor, especially after many years of experience in the College, I think that my contribution could be improved if I communicate with the different units according to the hierarchy reaching to the highest authority”. While group 2 agree with the following proposition: “ Whatever my opinion about the communication between the units, which I feel is gradually improving, we must provide more clear, short, direct and totally reliable communication channels in the college”

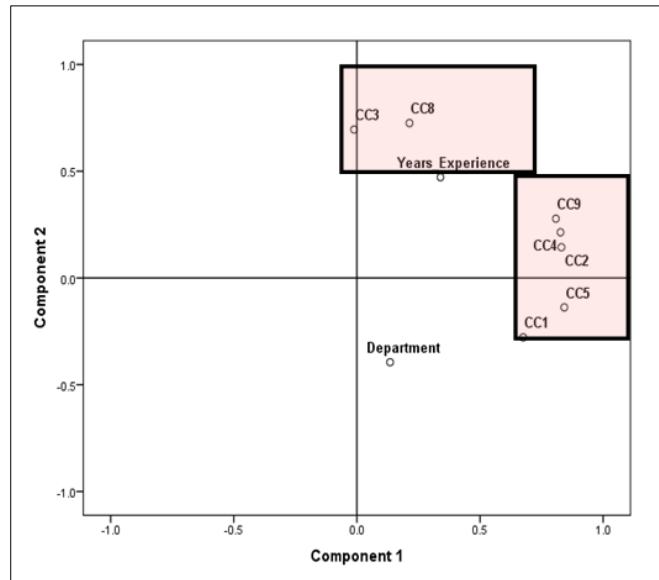


Figure 1 Communication in college scatter Plot

Fig. 1 indicates also that there is no difference between the three departments about the communication with different units.

4.2. Results of the Communication in the department (Scale 2)

The result of applying the PCA to the Scale 2 shown in Fig. 2. This Figure indicates only one group. All faculty staff are agree with this proposition *“The department head does his work in terms of excellent communication skills, and I have confidence in the decisions he makes”*

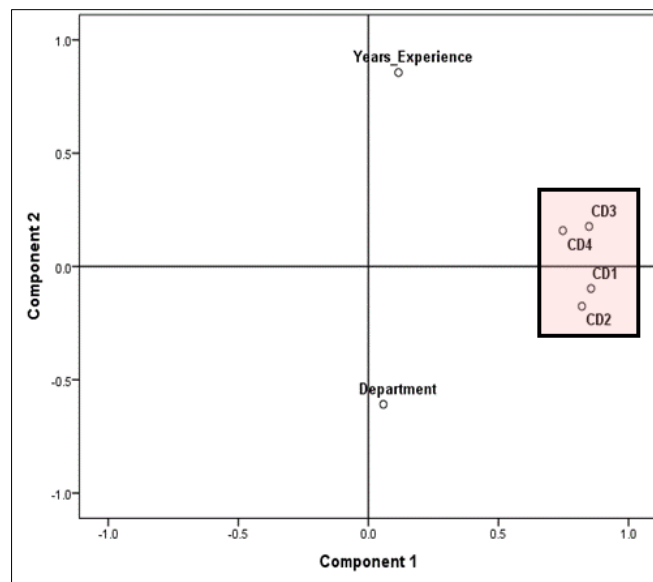


Figure 2 Communication in college scatter Plot

Fig. 2 indicates also that Department type and number of years of experience do not affect communication in the department itself.

4.3. Results of the Faculty Satisfaction (Scale 3)

The result of applying the PCA to the Scale 3 shown in Fig. 3

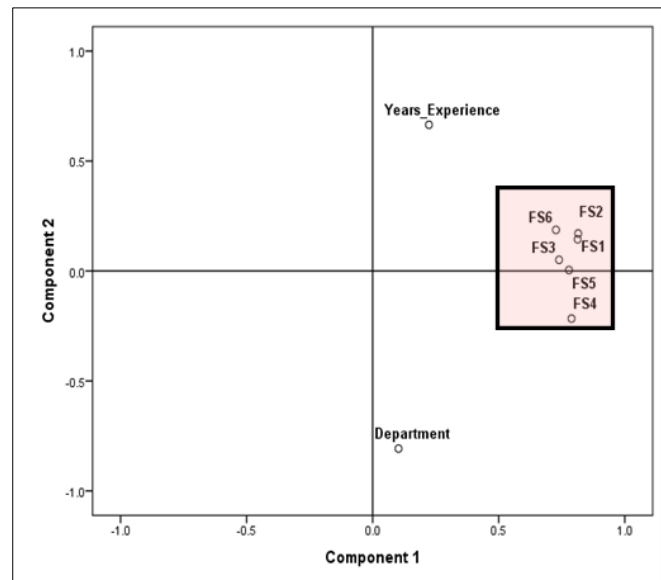


Figure 3 Faculty Satisfaction scatter Plot

The scatter plot (Fig. 3) indicates only one group. All faculty staff are agree with this proposition “My ability to access learning and development opportunities for my professional and scientific career is linked to comments on my performance, and when I feel appreciated for the work I do it makes me feel my salary is reasonable compared to people doing similar work in other organizations”.

Fig. 3 indicates also that Department type and number of years of experience do not affect Faculty Satisfaction. It should be noted that, for confidentiality reasons, certain specific results are not cited in this analysis.

5. Conclusion

This study's findings support a number of conclusions. One thing to note is that "communication satisfaction" is a multidimensional construct. This result should not come as a huge surprise because "communication" and "work satisfaction" are both multidimensional notions. Second, according to the study, the relationship with supervisor and communication climate are the two key communication variables that influence job satisfaction. Third, the findings from several factor analyses in various organizations show that the factors exhibit a high degree of stability.

findings did, in fact, imply that job happiness and communication satisfaction among academic staff members have a considerable influence on that staff's ability to perform their jobs. In order to create an environment that is helpful to the educational process, academic staff and universities must collaborate. A happy and safe work environment, a supportive administration, career advancement, pay, work teams, colleagues, and the job itself are just a few factors that have an impact on academic staff attitudes at work. Furthermore, academic employees place a high value on it, and the need for autonomy has been linked to job satisfaction on a similar level. Academic employees feel a sense of ownership in the final choice and a desire to contribute to its achievement when their opinions are sought and given some weight when matters affecting the workplace or pertaining to university improvement are being addressed.

Compliance with ethical standards

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Disclosure of conflict of interest

The author declares no conflict of interest.

Statement of informed consent

Each participant who took part in the study voluntarily gave their informed consent.

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Appendix

Biographical information: (two questions)		1) Your Department
		2) Years of Experience in the College
Scale 1: Communication in College	CC1	How do you rate your communication with the university units
	CC2	There is no confusion or distraction each time new message has been delivered due to clear, short, direct and reliable communication channel that reach the Faculty.
	CC3	As a professor, my contributions can be enhanced if I connect, relate and can be reached by top management.
	CC4	Which best describes your impression of communications within the college?
	CC5	How would you rate your knowledge of the college, its strategies, and its contribution in the kingdom vision 2030?
	CC6	From which of the following sources do you now receive most of your information about what is going on in the college? Rank your top three information sources only
	CC7	From which of the following sources would you prefer to receive most of your information about what is going on in the college? Rank your top three information sources only
	CC8	Management layers (Levels) is affecting the communication delivery and reception?
	CC9	I feel that communication is gradually improving.
Scale 2: Communication in the Department	CD1	The Department Chair is always there to answer my questions, concerns, and misconceptions.
	CD2	The Department Chair motivates me to be more effective in my job.
	CD3	Overall, I have confidence in the decisions made by my Department.
	CD4	How would you rate the Faculty communication skills?
Scale 3: Faculty Satisfaction	FS1	I am able to access the right learning and development opportunities when I need to.
	FS2	There are opportunities for me to develop my career.
	FS3	I receive regular feedback on my performance.
	FS4	I am treated fairly at work.
	FS5	I feel valued for the work I do.
	FS6	Compared to people doing a similar job in other organizations I feel my pay is reasonable.