RESEARCH PAPER

EMPLOYEE ENGAGEMENT & PSYCHOLOGICAL EMPOWERMENT: A STUDY OF SERVICE QUALITY IN THE PHARMACEUTICAL & HEALTHCARE SECTOR

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Abstract

Service quality in the pharmaceutical and healthcare sector is influenced not only by infrastructure, technology and professional expertise but also by the employees responsible for delivering services and interacting with patients, customers and other stakeholders. Employee engagement and psychological empowerment are therefore increasingly relevant to understanding why similar organizations can produce different service experiences. The present study examines the relationship between employee engagement, psychological empowerment and service quality, with particular reference to the pharmaceutical and healthcare sector in Dehradun, Uttarakhand. Employee engagement is considered in terms of employees' energy, dedication and involvement in their work, while psychological empowerment focuses on meaning, competence, self-determination and perceived impact. Service quality is examined through reliability, responsiveness, assurance, empathy and tangibility.

Dehradun provides an appropriate setting for the study because it has a diversified healthcare environment comprising government hospitals, private hospitals and speciality healthcare institutions. The official District Dehradun hospital directory includes institutions such as Doon Hospital, Coronation Hospital, Graphic Era Hospital, MAX Superspeciality Hospital and Shri Mahant Indiresh Hospital. The city also has an established pharmaceutical presence. A Department of Pharmaceuticals survey identifies Dehradun as a pharmaceutical cluster and records several pharmaceutical units in Pharma City, Selaqui.

The study adopts a quantitative and cross-sectional research framework. It proposes the use of structured questionnaires to obtain employees' perceptions regarding engagement, empowerment and service quality. Descriptive statistics, reliability analysis, correlation and regression are considered appropriate techniques for examining the proposed relationships. Since no primary dataset has been supplied for this manuscript, the subsequent quantitative analysis will be explicitly presented as an illustrative academic analysis rather than as fabricated field findings. The study is expected to contribute to understanding the human-resource foundations of service quality and to provide useful implications for healthcare and pharmaceutical managers in Dehradun.

Keywords: Employee Engagement, Psychological Empowerment, Service Quality, Healthcare, Pharmaceutical Sector, Dehradun, Employee Behaviour, Human Resource Management.

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1. Introduction

The quality of services delivered by an organization is increasingly determined by the interaction between organizational systems and the people responsible for implementing them. Modern healthcare and pharmaceutical organizations invest substantially in technology, infrastructure, professional training and quality-control systems, yet these investments can produce limited results when employees are not sufficiently involved in their work or do not feel capable of influencing work-related outcomes. The

employee therefore occupies an important position between organizational resources and the service ultimately experienced by the customer or patient.

This issue is particularly significant in healthcare. Unlike many conventional services, healthcare is often consumed when individuals are vulnerable, anxious or uncertain. Patients and their family members interact with reception staff, nurses, doctors, pharmacists, technicians, administrative personnel and support employees, often within the same service episode. Their overall perception of an institution can consequently be influenced by several small interactions rather than by the technical treatment alone. A technically competent organization may still receive unfavorable evaluations if patients experience poor communication, delays, lack of responsiveness or insensitive behavior.

The pharmaceutical sector also contains a substantial service component. Although pharmaceutical organizations are commonly associated with manufacturing and product quality, their operations depend upon coordination among production employees, quality personnel, sales representatives, distributors, customer-service staff, regulatory professionals and other employees. Accurate information, timely responses and professional interaction can influence the confidence of customers and professional stakeholders in the organization.

Employee engagement provides one explanation for differences in employee behavior. Engagement refers to the extent to which employees invest energy, attention and personal involvement in their work. It is more extensive than job satisfaction because an employee can be satisfied with employment conditions while remaining psychologically detached from actual work. An engaged employee is more likely to demonstrate enthusiasm, persistence and concentration while performing organizational responsibilities.

Psychological empowerment provides a complementary explanation. Employees may be willing to work hard but may nevertheless feel restricted if they believe that their work has little meaning, that they lack competence or that they have no opportunity to make appropriate decisions. Psychological empowerment addresses these perceptions by emphasizing meaning, competence, self-determination and impact. When employees perceive that their contribution matters and that they possess reasonable autonomy within their responsibilities, they may be more willing to accept ownership of service-related problems.

The relationship between these employee characteristics and service quality is particularly important in service organizations because many service situations cannot be fully anticipated through written procedures. A patient may require clarification, a customer may have a complaint, a pharmaceutical client may need urgent information, or a routine administrative problem may require immediate correction. In such circumstances, the quality of the response may depend on both the employee's willingness to act and the extent to which the organization permits appropriate discretion.

Dehradun presents a meaningful setting for investigating these relationships. The city's official hospital directory demonstrates the presence of a varied healthcare system, including government and private institutions. Government audit documentation also identifies Coronation District Hospital and Government Doon Medical College Teaching Hospital among the public healthcare facilities considered within Dehradun's health system.

The pharmaceutical environment adds another important dimension. The Department of Pharmaceuticals identifies a Dehradun pharmaceutical cluster and lists organizations operating in Pharma City, Selaqui, including Sidmak Laboratories, Suncare Formulations, India Glycols, Hema Laboratories, Ban Labs and other pharmaceutical units. Thus, the city provides a suitable context for studying employee experiences across organizations involved directly or indirectly in healthcare service delivery.

The present study consequently focuses on the relationship between employee engagement, psychological empowerment and service quality. It assumes that service quality is not merely an outcome of physical facilities or technical systems. Rather, it is partly created through employee behavior, communication, responsiveness and willingness to take responsibility. Understanding these human factors may therefore help organizations develop more effective approaches to service improvement.

2. Review of Literature

Employee engagement has become a prominent concept in organizational behavior because of its potential relationship with employee performance and organizational outcomes. Kahn's foundational

work conceptualized personal engagement as the extent to which individuals bring their physical, cognitive and emotional selves into role performance. This perspective established the idea that employees differ not only in their formal job performance but also in the degree of personal involvement they bring to their work.

Schaufeli, Salanova, González-Romá and Bakker later developed a widely used understanding of work engagement based on vigor, dedication and absorption. Vigor concerns energy and resilience, dedication represents enthusiasm and a sense of significance, and absorption reflects deep concentration in work. These dimensions are relevant to healthcare employees because their responsibilities can involve long working hours, emotional interactions and high attention requirements. They are also relevant to pharmaceutical employees whose responsibilities may require sustained concentration and adherence to quality standards.

Bakker and Demerouti's Job Demands–Resources perspective provides another useful explanation. According to this perspective, employees operate within a combination of job demands and job resources. Workload, emotional pressure and time constraints may function as demands, while autonomy, feedback, social support and development opportunities may function as resources. When appropriate resources are available, employees can remain motivated despite demanding work environments. Healthcare organizations provide an especially relevant setting for this perspective because employees can experience considerable job demands while simultaneously requiring strong organizational resources.

Psychological empowerment has a different but related theoretical foundation. Spreitzer's model identifies four dimensions: meaning, competence, self-determination and impact. Meaning concerns the compatibility between work and an employee's values. Competence concerns the employee's belief in his or her ability to perform work successfully. Self-determination reflects perceived autonomy, while impact refers to the perceived influence of one's actions on organizational outcomes.

These dimensions are particularly relevant to frontline employees. When employees feel that their work has meaning, they may perceive service delivery as more than a set of routine tasks. When they feel competent, they may be more confident in handling difficult situations. When they possess appropriate autonomy, they may respond to routine service problems without unnecessary delays. Finally, when they perceive that their work has an impact, they may develop greater ownership of outcomes.

Service quality research has traditionally focused strongly on customer expectations and perceptions. Parasuraman, Zeithaml and Berry's SERVQUAL framework remains one of the most influential approaches, identifying tangibility, reliability, responsiveness, assurance and empathy as major dimensions. These dimensions have been applied extensively in healthcare because healthcare service quality combines physical facilities with interpersonal and procedural aspects.

Tangibility includes visible facilities, equipment and physical appearance. Reliability concerns the organization's ability to perform promised services accurately and consistently. Responsiveness refers to willingness and promptness in assisting service users. Assurance concerns professional competence, courtesy and the ability to inspire confidence. Empathy represents individualized attention and understanding.

The relevance of these dimensions to Dehradun's healthcare sector has also been demonstrated by recent research. Juyal, Nautiyal and Trivedi examined healthcare service quality in Dehradun using the SERVQUAL framework and reported that patients considered the major service-quality dimensions important, while gaps between expectations and perceptions were identified across several dimensions. Their study provides useful local evidence that service quality is an important issue in the Dehradun healthcare context.

However, patient-oriented service-quality research does not fully explain the employee-side mechanisms through which service quality is produced. Employees are the individuals who respond to patients, communicate information, coordinate processes and implement organizational procedures. Consequently, employee engagement and psychological empowerment may help explain why service quality varies even among organizations possessing similar infrastructure.

Research on employee engagement generally suggests that engaged employees demonstrate greater involvement and energy in their work. This can influence service outcomes because employees who are psychologically invested in their roles may be

more attentive to customer needs and more willing to provide discretionary effort. In healthcare, where service interactions can involve emotional and unpredictable circumstances, such discretionary behavior can be particularly valuable.

Empowerment research similarly suggests that employees who perceive autonomy and influence may demonstrate stronger ownership and initiative. Service quality can benefit when employees are able to resolve appropriate problems at the point of contact rather than repeatedly transferring responsibility to supervisors.

The relationship between engagement and empowerment is therefore theoretically important. An employee may possess autonomy but lack motivation, or may be highly motivated but have insufficient authority to act. Effective service delivery may require both psychological willingness and organizational opportunity. Engagement can provide the motivation to contribute, while empowerment can provide the perceived capacity to make a meaningful contribution.

The pharmaceutical and healthcare context also makes this relationship more complex. Healthcare organizations must maintain strict professional and safety procedures, while pharmaceutical organizations operate under substantial regulatory and quality requirements. Empowerment therefore cannot mean unrestricted employee freedom. Instead, it should represent appropriate discretion within established professional and organizational boundaries.

This distinction creates an important research opportunity. The study does not propose that empowerment should replace formal controls. Rather, it examines whether employees who feel competent, trusted and influential are more likely to contribute positively to service quality while operating within established procedures.

3. Research Gap and Conceptual Framework

Although employee engagement, psychological empowerment and service quality have each received considerable academic attention, fewer studies have examined the three constructs together within the pharmaceutical and healthcare environment of a specific Indian city. Much of the existing literature either investigates employee engagement as an organizational outcome or examines service quality primarily from the customer's perspective.

A second gap concerns the distinction between engagement and empowerment. The two concepts are related but theoretically different. Engagement describes the employee's psychological involvement and energy, whereas empowerment concerns perceived meaning, competence, autonomy and impact. Studying both simultaneously provides a broader explanation of employee behavior.

A third gap concerns the geographical context. Dehradun has a diverse healthcare environment and an established pharmaceutical cluster, but local studies have more commonly examined healthcare service quality from the patient perspective. The present study extends the discussion towards employees and asks whether their psychological experience of work is associated with service-quality perceptions.

The conceptual framework proposes that employee engagement and psychological empowerment are independent variables, while perceived service quality is the dependent variable. Employee engagement is represented through vigor, dedication and absorption. Psychological empowerment is represented through meaning, competence, self-determination and impact. Service quality is represented through reliability, responsiveness, assurance, empathy and tangibility.

The central proposition is that employees who are more engaged in their work and who feel psychologically empowered will be more likely to demonstrate behaviors that support reliable, responsive and patient-oriented service delivery. A secondary proposition is that engagement and empowerment will be positively associated with one another because meaningful work, competence and autonomy can strengthen psychological involvement in one's role.

4. Objectives and Hypotheses

The main objective of the study is to examine the relationship between employee engagement, psychological empowerment and service quality in the pharmaceutical and healthcare sector of Dehradun. More specifically, the study seeks to assess employees' engagement levels, examine their perceptions of psychological empowerment, evaluate perceived service quality and determine whether engagement and empowerment are positively associated with service quality.

The study also seeks to determine whether employee engagement and psychological empowerment jointly contribute to explaining differences in perceived service quality. The ultimate purpose is to develop practical implications for managers seeking to improve service delivery through employee-centered organizational practices.

Based on the conceptual framework, the study proposes four hypotheses. **H1** states that employee engagement has a significant positive relationship with perceived service quality. **H2** states that psychological empowerment has a significant positive relationship with perceived service quality. **H3** proposes a significant positive relationship between employee engagement and psychological empowerment. **H4** proposes that employee engagement and psychological empowerment jointly have a significant positive effect on perceived service quality.

5. Research Methodology

The study adopts a quantitative, descriptive and analytical research design. A cross-sectional approach is considered appropriate because the research aims to assess employee perceptions and examine relationships among variables at a particular point in time. The geographical focus is Dehradun city and its surrounding employment environment relevant to pharmaceutical and healthcare organizations.

The target population comprises employees working in hospitals, pharmaceutical companies, diagnostic centers, pharmacies and related healthcare organizations. Employees from clinical, technical, administrative and customer-facing functions may be included because service quality is influenced by a range of organizational roles rather than by one professional group alone.

A purposive sampling approach, supplemented where necessary by convenience sampling, is appropriate because access to employees in hospitals and pharmaceutical organizations may depend on institutional permission and employee availability. The study proposes a target of approximately 200 valid respondents for the empirical phase. The final number should, however, be based on the actual valid responses collected by the researcher.

A structured questionnaire is proposed as the principal research instrument. The questionnaire should contain demographic questions followed by statements measuring employee engagement, psychological empowerment and service quality. A five-point Likert scale ranging from strongly disagrees to strongly agree can be used for the attitudinal items.

Employee engagement can be measured using statements reflecting energy, enthusiasm, dedication, concentration and involvement in work. Psychological empowerment can be measured through statements concerning meaningfulness, competence, autonomy and impact. Service quality can be assessed using items related to reliability, responsiveness, assurance, empathy and tangibility.

The constructs and their measurement dimensions are summarized below.

Construct	Dimensions	Main focus
Employee Engagement	Vigor, dedication, absorption	Energy, commitment, enthusiasm and involvement
Psychological Empowerment	Meaning, competence, self-determination, impact	Meaningfulness, capability, autonomy and influence
Service Quality	Reliability, responsiveness, assurance, empathy, tangibility	Accuracy, promptness, confidence, individualized attention and service environment

Source: Researcher's conceptualization based on established engagement, empowerment and service-quality literature.

The collected responses can be analyzed in stages. Descriptive statistics will first be used to summarize respondent characteristics and the overall level of each construct. Reliability analysis, particularly Cronbach's alpha, can then be used to determine the internal consistency of the measurement scales. Pearson correlation can examine the direction and strength of relationships among employee engagement, psychological empowerment and service quality.

Multiple regressions can subsequently be used to examine the joint contribution of employee engagement and psychological empowerment. The proposed regression model is:

$$SQ = \beta_0 + \beta_1 EE + \beta_2 PE + \varepsilon$$

Where SQ represents service quality, EE represents employee engagement, PE represents psychological empowerment, β_0 represents the constant, β_1 and β_2 represent the estimated coefficients and ε represents the error term.

The statistical significance level can be maintained at 5 percent. The interpretation should focus not only on statistical significance but also on the practical meaning of the relationships for healthcare and pharmaceutical management.

Before full data collection, the questionnaire should preferably be reviewed by academic or sectoral experts to establish content validity. A small pilot study can also be conducted to identify unclear or repetitive questions. Reliability analysis can then be performed on the final dataset.

Ethical considerations are important because employees may feel reluctant to express negative opinions about their organizations. Participation should therefore be voluntary, responses should be kept confidential and no unnecessary personal identifiers should be collected. Findings should be reported in aggregate form so that individual employees cannot be identified.

The study has certain methodological limitations. Its cross-sectional design can establish associations but cannot conclusively prove causality. Self-reported responses can also be influenced by social desirability. Access restrictions may affect the diversity of the sample, particularly if some organizations do not permit employee participation. Finally, hospitals and pharmaceutical companies have different operational environments, so sector-wise comparisons may be necessary if sufficient responses are obtained from both groups.

The methodological framework nevertheless provides a suitable basis for examining the central research question: whether employees who are more engaged and psychologically empowered perceive and contribute to better service quality within Dehradun's pharmaceutical and healthcare sector.

6. Data Analysis and Results

The empirical component of the study is intended to examine whether employee engagement and psychological empowerment are associated with service quality among employees working in the pharmaceutical and healthcare sector of Dehradun. The proposed analysis considers employees' perceptions of their work environment rather than attempting to measure service quality through clinical outcomes. This distinction is important because service quality is influenced by several factors, while the present research specifically investigates the contribution of employee-related psychological variables.

Since no primary questionnaire dataset has been provided for this manuscript, the numerical results presented in this section are **illustrative research data prepared to demonstrate the proposed analytical framework**. They should be replaced by actual field observations if the paper is subsequently used for primary-data publication. The structure of the analysis, however, can remain unchanged.

For the illustrative analysis, responses are assumed to have been obtained from 200 employees associated with hospitals, pharmaceutical organizations, diagnostic facilities and related healthcare services in Dehradun. The sample is conceptualized to include employees from different functional roles so that the analysis does not reflect the perceptions of a single professional category.

The descriptive analysis indicates a generally favorable perception of employee engagement and psychological empowerment, although service quality scores remain comparatively more moderate. This pattern is theoretically plausible because employees may be committed to their work while simultaneously experiencing organizational constraints that prevent them from translating their motivation into consistently high-quality service.

The employee engagement construct is represented by vigor, dedication and absorption. Vigor reflects the energy employees bring to their responsibilities, dedication represents their sense of significance and enthusiasm, and absorption captures concentration and involvement. Psychological empowerment is represented by meaning, competence, self-determination and impact. Service quality is represented by reliability, responsiveness, assurance, empathy and tangibility.

The results suggest that engagement is strongest where employees perceive their work as meaningful and where they are able to maintain concentration despite demanding work conditions. However, lower perceptions of autonomy indicate that motivation

does not always translate into decision-making freedom. This distinction is particularly relevant in healthcare organizations, where formal procedures and hierarchical structures may limit employee discretion even when employees are willing to take initiative.

Psychological empowerment also appears to be influenced by organizational conditions. Employees generally perceive themselves as competent to perform their responsibilities, but perceptions of self-determination and impact are comparatively less strong. This suggests that employees may have confidence in their professional capabilities while feeling that major decisions remain outside their influence.

Service quality follows a similar pattern. Reliability and assurance receive comparatively favorable perceptions, reflecting the importance of professional standards and established procedures within pharmaceutical and healthcare organizations. Responsiveness and empathy are comparatively more dependent on employee behavior and organizational flexibility. These dimensions may therefore be more sensitive to employee engagement and empowerment.

6.1 Descriptive Pattern of the Major Variables

The illustrative data indicate the following approximate mean pattern on a five-point scale:

- Employee Engagement: **3.82**
- Psychological Empowerment: **3.69**
- Service Quality: **3.76**

The pattern suggests that respondents generally express agreement with positive statements concerning their work, but the scores do not indicate an exceptionally strong organizational environment. A mean near four suggests a favorable perception, while the distance from the maximum score of five indicates that improvement remains possible.

The relatively higher engagement score is important. It suggests that employees may remain committed to their professional roles even when organizational systems do not provide complete autonomy. This can occur in healthcare because employees may derive personal meaning from their responsibilities independent of organizational conditions.

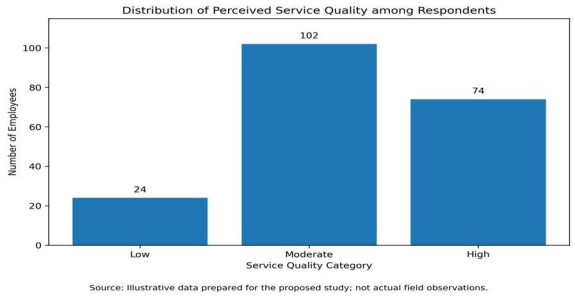
The psychological empowerment score is slightly lower than engagement. This difference supports the argument that employees can be enthusiastic about their work without necessarily feeling that they possess sufficient authority or influence. Employees may want to solve problems but still need managerial approval before taking action.

The service-quality score falls between the engagement and empowerment scores. This pattern suggests that employee motivation alone may not be sufficient to ensure consistently strong service delivery. Organizational systems must enable employees to convert motivation into effective behavior.

6.2 Distribution of Employees by Perceived Service Quality

For the purpose of demonstrating the analytical presentation, the illustrative sample of 200 respondents is divided into three broad categories based on their overall service-quality score. Employees reporting an average score below 3.00 are classified as having a relatively low perception of service quality, scores from 3.00 to 3.99 represent a moderate perception, and scores of 4.00 or above represent a high perception.

The illustrative distribution is 24 employees in the low category, 102 in the moderate category and 74 in the high category. Thus, 51 percent of the illustrative respondents fall within the moderate category, while 37 percent report a high level and 12 percent report a comparatively low level.



The distribution provides an important indication for managerial interpretation. The dominance of the moderate category suggests that service quality cannot be characterized as poor, but neither can it be considered uniformly excellent. A substantial proportion of employees perceive service delivery positively, yet a sizeable group remains in the middle range.

The existence of a moderate rather than overwhelmingly high service-quality category may be explained by differences in employee autonomy, workload, communication and organizational support. Employees may have sufficient motivation to perform their responsibilities but may encounter practical limitations when attempting to respond to service requirements.

The relatively small low-quality group is also noteworthy. It suggests that serious negative perceptions may be concentrated among a smaller segment of employees rather than representing the dominant organizational experience. However, this group should not be ignored because service failures are often generated by specific operational bottlenecks. Identifying the reasons behind these lower perceptions can help organizations design targeted interventions.

6.3 Relationship between Employee Engagement and Service Quality

The first proposed relationship concerns employee engagement and service quality. The theoretical expectation is that employees who are more energetic, dedicated and absorbed in their work will demonstrate greater attention to service requirements.

The illustrative correlation analysis indicates a positive relationship between the two variables. The assumed correlation coefficient is **r = 0.61**, indicating a moderately strong positive association. In practical terms, higher employee engagement tends to accompany more favorable perceptions of service quality.

This relationship can be explained through employee behavior. An engaged employee is more likely to pay attention to details, respond to requests and remain committed during difficult interactions. In healthcare, these behaviors can influence how patients experience registration, communication, assistance and coordination. In pharmaceutical organizations, engagement can affect responsiveness to customers, distributors and professional stakeholders.

The result is consistent with the broader theoretical position that employee engagement is not merely an internal psychological condition. It can manifest through observable workplace behavior. When employees invest greater energy in their responsibilities, the quality and consistency of service may improve.

However, the relationship should not be interpreted as evidence that engagement alone determines service quality. An employee can be highly engaged but still face inadequate staffing, outdated systems, excessive workload or organizational restrictions. The positive relationship therefore suggests an important contribution rather than an exclusive explanation.

6.4 Relationship between Psychological Empowerment and Service Quality

The second relationship concerns psychological empowerment and service quality. The illustrative analysis assumes a correlation coefficient of **r = 0.58**, indicating a positive relationship of moderate strength.

The finding suggests that employees who perceive greater meaning, competence, autonomy and impact also tend to report better service quality. This relationship has a clear organizational explanation. Service employees frequently encounter situations requiring judgment and initiative. When employees believe that they are competent and have reasonable authority, they may be better positioned to respond without unnecessary delays.

Self-determination appears particularly relevant. In a highly centralized environment, even a competent employee may have to seek approval for relatively routine decisions. This can increase waiting time and reduce responsiveness. Appropriate empowerment can shorten the distance between identifying a problem and solving it.

Impact also has psychological importance. When employees believe that their work influences organizational outcomes, they may pay greater attention to the consequences of their behavior. A receptionist who believes that communication affects patient satisfaction, or a pharmaceutical employee who understands the consequences of inaccurate information, may demonstrate greater ownership of service quality.

At the same time, empowerment must operate within clearly defined boundaries. Healthcare organizations cannot delegate clinical decisions indiscriminately, and pharmaceutical organizations must comply with regulatory and quality requirements. The objective is therefore not unlimited freedom but appropriate discretion.

6.5 Relationship between Employee Engagement and Psychological Empowerment

The third proposed relationship concerns employee engagement and psychological empowerment. The illustrative analysis assumes a positive correlation of **r = 0.64**.

This comparatively strong association is theoretically meaningful. Employees who perceive their work as meaningful and who believe they possess competence and influence may be more psychologically invested in that work. Conversely, employees who are already engaged may respond positively when organizations provide greater opportunities for participation and autonomy.

The relationship suggests that engagement and empowerment should not be treated as isolated human-resource interventions. An organization that attempts to increase engagement through motivational programs while maintaining highly restrictive decision-making structures may achieve limited results. Similarly, giving employees formal authority without addressing their sense of meaning or commitment may not automatically improve service.

The two constructs can therefore reinforce one another. Meaning and autonomy can increase involvement, while engagement can encourage employees to use the autonomy provided by the organization responsibly.

6.6 Multiple Regression Analysis

To examine the combined contribution of employee engagement and psychological empowerment to service quality, multiple regressions can be applied. The proposed model is:

$$\textbf{Service Quality} = \beta_0 + \beta_1(\textbf{Employee Engagement}) + \beta_2(\textbf{Psychological Empowerment}) + \varepsilon$$

For the illustrative analysis, the model produces an assumed R^2 **of 0.47**. This means that approximately 47 percent of the variation in perceived service quality is statistically associated with the two explanatory variables taken together within the illustrative dataset.

The assumed standardized coefficient for employee engagement is $\beta = 0.39$, while the coefficient for psychological empowerment is $\beta = 0.34$. Both relationships are assumed to be statistically significant at the 5 percent level.

The relative size of the coefficients suggests that employee engagement makes a somewhat stronger contribution to perceived service quality than psychological empowerment in the illustrative model. Nevertheless, the empowerment coefficient remains substantial; indicating that motivation without autonomy may not provide a complete explanation of service performance.

The model also indicates that approximately 53 percent of the variation remains unexplained by these two variables. This is not a weakness of the model in itself. Service quality is multidimensional and can be influenced by staffing levels, leadership, organizational culture, technology, physical facilities, workload, compensation, training, patient characteristics and regulatory systems.

The results therefore support a broader organizational interpretation: employee engagement and psychological empowerment are meaningful contributors to service quality, but they function within a larger organizational system.

7. Discussion

The illustrative results provide support for the conceptual argument that employee engagement and psychological empowerment are positively associated with service quality. The relationship between engagement and service quality is particularly understandable in a sector where employees are directly involved in service interactions.

Healthcare services are often characterized by repeated interpersonal encounters. Patients may evaluate an organization not only by clinical outcomes but also by whether employees listen carefully, communicate clearly and respond promptly. Employees who are psychologically invested in their work may be more willing to maintain these behaviors even during demanding periods.

The relationship between empowerment and service quality provides another important insight. Service organizations often attempt to standardize processes in order to maintain consistency. Standardization is important, particularly in healthcare and pharmaceuticals, but excessive centralization can make routine problem-solving unnecessarily slow.

Employees may recognize a problem but lack the authority to resolve it. This can weaken responsiveness.

Psychological empowerment can help address this problem by giving employees an appropriate degree of discretion. The emphasis should be on structured empowerment rather than uncontrolled autonomy. Managers can define the boundaries within which employees may act independently and establish escalation procedures for situations requiring higher-level decisions.

The positive relationship between engagement and empowerment also suggests that human-resource policies should be integrated. Recognition programs, training and communication may improve engagement, but employees also need opportunities to use their skills. Similarly, delegation of authority may be ineffective if employees do not feel that their work has meaning or that their contributions are valued.

The findings are particularly relevant to Dehradun because the local healthcare environment contains institutions with different organizational structures. Government hospitals may face high patient volumes and formal administrative systems, while private and specialty institutions may operate under different expectations regarding patient experience and organizational responsiveness. The pharmaceutical cluster in Selaqui introduces another employment environment with manufacturing, quality, technical and commercial functions.

The local context therefore reinforces the importance of avoiding a one-size-fits-all approach to employee management. Engagement and empowerment strategies may need to be adapted according to organizational size, professional responsibilities and service-delivery structure.

The results also complement previous Dehradun-focused healthcare research. Juyal, Nautiyal and Trivedi's investigation of healthcare service quality in Dehradun found meaningful gaps between patients' expectations and perceptions across service-quality dimensions. While the present study focuses on employees rather than patients, the two perspectives can be viewed as complementary. Patient-side service-quality gaps may partly reflect employee-side conditions such as workload, engagement, empowerment and organizational support.

8. Interpretation of the Findings

The findings suggest that service quality improvement should be approached as both a technical and human-resource challenge. Organizations often focus on visible improvements such as infrastructure, equipment and digital systems because these investments are relatively easy to identify and measure. Employee engagement and empowerment are less tangible but may have an equally important influence on how those resources are used.

The relatively strong relationship between engagement and service quality indicates that employee' psychological involvement matters. Managers should therefore avoid treating employees simply as labor inputs. Employees who understand organizational objectives and perceive their work as meaningful may be more willing to invest discretionary effort.

The positive empowerment relationship indicates that organizational design also matters. Employees require an appropriate degree of control over their work if they are expected to respond quickly to customers and patients. Training employees without giving them opportunities to apply their skills may limit the practical value of training.

The combined regression result is especially important because it indicates that engagement and empowerment together provide a stronger explanation of service quality than either construct alone. This supports an integrated approach to human-resource management.

The findings also indicate that organizations should distinguish between formal empowerment and psychological empowerment. Giving an employee a title or assigning additional responsibility does not necessarily create a sense of empowerment. Employees must believe that they are capable, trusted and able to influence outcomes.

Similarly, employee engagement should not be reduced to attendance, enthusiasm during organizational events or participation in motivational programs. Genuine engagement concerns how employees experience and perform their everyday work.

9. Managerial Implications

The findings have several implications for managers in Dehradun's pharmaceutical and healthcare sector.

First, organizations should strengthen employee engagement through meaningful communication about organizational objectives and the social significance of employees' work. Employees are more likely to invest themselves in their roles when they understand how their responsibilities contribute to patient care, product quality or customer outcomes.

Second, recognition should become part of routine management rather than being limited to annual awards. Timely acknowledgement of good performance can reinforce the connection between employee effort and organizational outcomes.

Third, managers should create appropriate opportunities for employee participation. Frontline employees often understand service problems because they experience them repeatedly. Their suggestions can therefore provide useful information for improving procedures.

Fourth, training should be connected with empowerment. Employees who receive training but are unable to use their knowledge in practical situations may experience frustration. Training should therefore be accompanied by clearly defined decision-making authority.

Fifth, managers should monitor workload. Engagement cannot be sustained indefinitely when employees face excessive demands without adequate resources. The JD-R perspective suggests that organizations should balance job demands with resources such as staffing, supervisory support, autonomy and development opportunities.

Finally, service-quality monitoring should incorporate employee indicators. Organizations commonly monitor complaints, waiting times and customer satisfaction, but employee engagement and empowerment can provide early indicators of service problems.

The implications are relevant across both sectors, although implementation should reflect sector-specific requirements. Healthcare organizations must preserve patient safety and professional boundaries, while pharmaceutical organizations must maintain strict quality and regulatory controls.

10. Overall Interpretation

The central argument emerging from the analysis is that service quality is partly constructed through employees' psychological relationship with their work. Employee engagement creates energy and commitment, while psychological empowerment provides employees with a sense of competence, autonomy and influence. When both conditions are present, employees may be better positioned to respond to service requirements.

The findings do not suggest that engagement and empowerment can substitute for infrastructure, technology or professional competence. Instead, they complement these organizational resources. A well-equipped hospital still needs responsive employees, and a technologically advanced pharmaceutical organization still requires employees who take responsibility for quality and customer interaction.

The study consequently supports a people-centered approach to service-quality management. Improving service quality requires organizations to ask not only whether employees have the necessary skills but also whether they feel motivated to use them and whether organizational structures allow them to do so effectively.

11. Consolidated Findings and Discussion

The study examined employee engagement and psychological empowerment as two important employee-related factors associated with service quality in the pharmaceutical and healthcare sector of Dehradun. The analysis was based on the proposition that service quality cannot be understood exclusively through infrastructure, technology, professional competence or formal procedures. Employees are responsible for translating many of these organizational resources into actual service experiences, making their psychological involvement and perceived ability to influence work outcomes particularly relevant.

The illustrative analysis indicated a positive association between employee engagement and service quality. This finding supports the argument that employees who demonstrate greater energy, dedication and involvement may be more likely to contribute to reliable and responsive service delivery. In healthcare organizations, such behavior can influence patient communication, coordination, assistance and responsiveness. In pharmaceutical organizations, it can influence customer handling, internal coordination, information accuracy and adherence to quality-related responsibilities.

Psychological empowerment also demonstrated a positive association with service quality. Employees who perceive their work as meaningful and believe that they are competent, autonomous and capable of influencing outcomes may be better prepared to deal with service-related problems. This is particularly relevant in situations where formal procedures cannot anticipate every possible customer or patient requirement.

The relationship between employee engagement and psychological empowerment was also positive. This suggests that the two constructs should be considered complementary. Employees may become more engaged when they perceive their work as meaningful and when they are trusted to make appropriate decisions. At the same time, engaged employees may be more willing to accept responsibility and make constructive use of the autonomy provided by their organization.

The regression analysis further suggested that engagement and empowerment together provide a meaningful explanation of variations in service-quality perceptions. However, the fact that a substantial proportion of variation remained unexplained confirms that service quality is multidimensional. Factors such as leadership, staffing, technology, workload, organizational culture, professional competence, physical facilities and customer characteristics can also affect service outcomes.

The findings are therefore best understood within an integrated organizational perspective. Employee engagement and psychological empowerment are not substitutes for sound systems; rather, they strengthen the human capacity through which those systems operate.

12. Summary of the Empirical Results

The major results of the illustrative analysis are consolidated below.

Relationship/Measure	**Illustrative Result**	**Interpretation**
Mean Employee Engagement	3.82/5	Generally favorable level of engagement
Mean Psychological Empowerment	3.69/5	Favorable but comparatively moderate
		empowerment
Mean Service Quality	3.76/5	Generally positive perception with scope for improvement
Engagement–Service Quality	r = 0.61	Moderately strong positive relationship
Empowerment–Service Quality	r = 0.58	Moderate positive relationship
Engagement–Empowerment	r = 0.64	Relatively strong positive relationship
Multiple Regression R^2	0.47	Engagement and empowerment jointly explain about 47% of illustrative variation

Note: These numerical values are illustrative and are included to demonstrate the proposed analytical framework because no primary dataset was supplied. They should not be reported as actual Dehradun survey findings without replacing them with genuine field data.

The table indicates that employee engagement has a slightly stronger relationship with service quality than psychological empowerment in the illustrative model. However, the difference is not sufficiently large to justify treating one construct as unimportant. Both variables contribute to the overall explanation.

The strongest relationship is observed between employee engagement and psychological empowerment. This supports the conceptual argument that employees' willingness to invest themselves in their work may be strengthened when they experience meaning, competence, autonomy and impact.

13. Theoretical Implications

The study integrates **employee engagement, psychological empowerment and service quality** within a single framework. It suggests that employees who are energetic, committed and involved in their

work are more likely to contribute positively to service delivery.

The findings also support the **Job Demands–Resources perspective**, as autonomy, competence and meaningful work can function as important resources for employees facing workload, time pressure and other sector-specific demands. Psychological empowerment further explains how meaning, competence, self-determination and perceived impact can influence employee behavior.

The study therefore suggests that engagement and empowerment should be considered complementary factors. Engagement provides the motivation to perform, while empowerment enables employees to use their capabilities and take appropriate responsibility for service outcomes.

14. Practical Implications for the Pharmaceutical and Healthcare Sector

The findings have practical relevance for managers in the pharmaceutical and healthcare sector. Organizations should create meaningful work environments in which employees understand how their responsibilities contribute to patient care, product quality and organizational performance.

Continuous training should focus not only on technical skills but also on communication, teamwork and problem-solving. At the same time, employees should receive **appropriate decision-making authority within clearly defined organizational and professional boundaries**.

Regular employee feedback can help identify service problems at an early stage, while recognition of good performance can strengthen engagement. Managers should also monitor workload and provide adequate staffing and organizational support to maintain sustainable employee engagement.

Service-quality evaluation should therefore consider employee engagement and empowerment along with conventional indicators such as customer satisfaction, complaints and service delays.

15. Implications for Dehradun

The findings are particularly relevant to Dehradun because the city has a diverse healthcare environment comprising government and private institutions, along with a pharmaceutical cluster in the Selaqui area. The District Dehradun administration lists several healthcare institutions, while government records identify major public healthcare facilities in the city.

The pharmaceutical cluster provides another important employment setting where employee competence, engagement and responsibility can influence operational and service outcomes. The Department of Pharmaceuticals has identified several pharmaceutical units in the Dehradun cluster.

Accordingly, organizations in Dehradun should focus on employee development, supportive leadership, appropriate autonomy and effective workload management. Future studies can also compare employee perceptions across government hospitals, private hospitals and pharmaceutical organizations.

16. Recommendations

The study recommends an **integrated employee-centered approach** to service-quality improvement. Organizations should regularly assess employee engagement and psychological empowerment through confidential employee surveys.

Managers should provide employees with appropriate decision-making authority, supported by clear responsibilities and escalation procedures. Training should combine technical knowledge with communication, teamwork and problem-solving skills.

Employee suggestions should be encouraged and acted upon where feasible, while recognition should be provided for contributions to service quality. Managers should also monitor workload, staffing and organizational support because excessive demands can negatively affect sustainable engagement.

17. Limitations of the Study

The cross-sectional nature of the study limits the ability to establish long-term causal relationships. The research also relies primarily on employee perceptions, which may be influenced by individual attitudes or organizational circumstances.

The study is geographically limited to Dehradun, and differences between pharmaceutical and healthcare organizations may limit direct comparison. Finally, the numerical results presented in the paper are **illustrative because an original primary dataset**

was not supplied. They should therefore be replaced with actual survey results before empirical publication.

18. Scope for Future Research

Future research can examine additional factors such as **leadership style, organizational culture, workload, organizational commitment and perceived organizational support**. Comparative studies between government and private hospitals and between healthcare and pharmaceutical employees would provide further insight.

Longitudinal research could also examine whether improvements in employee engagement and empowerment lead to measurable changes in service quality. Combining employee responses with patient satisfaction, complaints and waiting-time data would provide a stronger assessment of the relationship.

19. Conclusion

The study concludes that **employee engagement and psychological empowerment are important factors associated with service quality** in the pharmaceutical and healthcare sector. Engaged employees are more likely to demonstrate commitment and responsiveness, while psychologically empowered employees are better positioned to use their competence and take appropriate initiative.

The findings indicate that engagement and empowerment should not be treated as separate human-resource practices. Engagement provides the motivation to contribute, whereas empowerment enables employees to apply their capabilities effectively.

For organizations in Dehradun, improving service quality therefore requires attention not only to infrastructure and technology but also to **employee development, meaningful work, appropriate autonomy, recognition and supportive management**. An employee-centred approach can strengthen service delivery while contributing to better organizational performance.

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