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Exploring the Issues Faced by Self Financing Teaching Faculty: A Nano-Topological Analysis

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Abstract: In recent years self financing teaching faculty have faced numerous challenges, including inadequate salaries, lack of respect from management, and a poor working atmosphere. These issues have significantly impacted the well being and productivity of educators. This paper seeks to explore and evaluate these common challenges by applying the concept of nano topo- logical space. Through this novel framework, we aim to provide a unique perspective on the intersection of workplace dynamics and individual faculty experiences at the microlevel. By analyzing the systemic and relational structures within the academic environment we aim to highlight the intricacies of these problems and suggest potential solutions for improving the situation of selffinancing teaching staff.

Keywords: Private Self Financing Teaching Faculty, Not enough salary

1. Introduction and preliminaries

Lellis Thivagar and Richard [18] introduced the concept of Nano Topology as an extension of traditional set theory, specifically designed for the study of intelligent systems characterized by incomplete or imprecise knowledge. In this framework, a nano topological space is defined in terms of approximations and the boundary regions of subsets within a universe U. This innovative approach facilitates the modeling of uncertainty and the exploration of system behavior under conditions where information is either partial or vague. The inclusion of boundary regions helps to capture the nuanced relationships between elements of the space, enriching the study of complex systems in environments where precise data is not always available. This approach involves the use of an equivalence relation on U, which helps in capturing the relationship between different subsets of the space. By introducing such relations, Thivagar et al. explore a new way of defining topological concepts like nano closed sets, nano interior, and nano closure.In certain self-financing institutions, many educators are paid significantly less than their counterparts in regular colleges. These educators are often in a challenging situation as they face exhaustion and are at the mercy of the management. To better understand the issues faced by these faculty members, a survey was conducted using a Google Form questionnaire, which was shared with 74 faculties through a WhatsApp group.

While some self-financing college administrations are open to addressing the concerns of their employees and improving their conditions, many others fail to show respect and provide adequate support to their faculty members. The most pressing issue is that these educators are not compensated fairly, with salaries often being insufficient for their needs. This study aims to identify the key challenges The challenges faced by faculty members in self-financing institutions often include limited resources, lack of administrative support, high teaching loads, and pressure to maintain financial sustainability. institutions and explores these issues through the lens of nano-topological space, offering a unique perspective on the micro-level dynamics that contribute to the broader institutional problems.

Definition 1.1 (15)**.** *Let* H *be a non-empty finite set of objects called the universe and* $\Re$ *be an equivalence relation on* H *named as the indiscernibility relation. Elements within the same equivalence class are considered indiscernible. The pair* (H, R) *is said to be the approximation space.*

Let $X \subseteq H$.

(1) *The lower approximation of* X *concerning* $\Re$ *is the set of all objects, which can be for cer-*

tain classified as X *concerning* $\Re$ *and is denoted by* $L_{\Re}(X)$. *That is* $L_{\Re}(X) = \cup\{\Re(X) : R(X) \subseteq X, X \in H$ *where* $R(X)$ *denotes the equivalence class determined by* $X \in H$.

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(2) *The upper approximation of* X *concerning* $\Re$ *is the set of all objects, which can be possibly classified as* X *concerning* $\Re$ *and it is denoted by* $U_R(X)$. *That is* $U_R(X) = \cap\{\Re(X) : R(X) \cap X \neq \phi, X \in H\}$.
(3) *The boundary region of* X *concerning* $\Re$ *is the set of all objects, which can be classified neither as* X *nor as not-*X *concerning* R *and it is denoted by* $B_R(X)$. *That is,* $B_R(X) = U_{\Re}(X) - L_{\Re}(X)$

Definition 1.2 (15)**.** *Let* H *be the universe,* R *be an equivalence relation on* H *and* $\zeta_R(X) = \{H, \emptyset, L_R(X), U_R(X), B_{\Re}(X)\}$ *where* $X \subseteq H$. *Then* $\tau_R(X)$ *satisfies the following axioms*

(1) H *and* $\emptyset$ *belongs to* $\zeta_R(X)$
(2) *The union of the elements of any sub-collection of* $\zeta_R(X)$ *is in* $\tau_R(X)$
(3) *The intersection of the elements of any finite sub-collection of* $\zeta_R(X)$ *is in* $\zeta_R(X)$. *That is* $\zeta_R(X)$ *is a topology on* H *called the NT on* H *with respect to* X. *Then* $(H, \zeta_R(X))$ *is a NTS. The elements of* $\zeta_R(X)$ *are called as Nano-open (NO) sets.*

Definition 1.3 (15)**.** *If (* H, $\tau_R(X)$ *) is a NTS concerning* X *where* $X \subseteq H$ *and if* $A \subseteq H$, *then the Nano interior of* A *is defined as the union of all NO subsets contained in* A *and it is denoted by Na* Int(A). *The Nano Closure of* A *is defines as the intersection of all NC sets containing* A *and it is denoted by* NaCl(A).

Definition 1.4 (15)**.** *Let* H *be a non empty set and* $\tau_1, \tau_2, \tau_3, \tau_4, \tau_5, \tau_6$ *are general topology on* H. *Then a subset* A *of space* H *is said to be hexa-open set (referred to as h-open) if* $A \in \bigcup_{i=i=1}^{6} \tau i$ *and its complement is said to be hexa - closed set (referred to as h-closed). The set* H *together with* h-*Topology* I_h *is called hexa topological space (referred to as hTS) and is denoted by* (H, I_h) *where* $I_h = (H, \phi, \tau_1, \tau_2, \tau_3, \tau_4, \tau_5, \tau_6)$

Definition 1.5 (15)**.** *If (* H, I_h *) is a HTS and* $A \subseteq H$. *Then*

(1) *The h-interior of* A *is the union of all h-open subset contained in* A *and is denoted by h* int(A)
(2) *The h-closure of* A *is the intersection of all h-closed subset containing* A *and is denoted by hcl*(A)

Methodology: At the beginning of this study, we conducted a survey using a Google Form, which was distributed among 74 faculty members working in various self-financing colleges. The survey included several questions aimed at understanding the job satisfaction of the staff. The questions were as follows:

- Is your salary enough for your family?
- Does your management provide you with respect, recognition, and importance?
- Do you believe that self-financing colleges pay teachers much less than the recommended amount?
- How would you rate the working atmosphere with your Head of Department (HOD)? How would you rate the working atmosphere with your Principal?
- How would you rate the working atmosphere with your students?
- Does your college provide a Provident Fund (PF) and other retirement benefits?
- Are you enjoying your role at the college?

The respondents were given the following options to answer each question: (i) Yes, (ii) No, (iii) Neutral, (iv) Agree, (v) Strongly Agree, (vi) Disagree.

This survey results, which focus on the job satisfaction of staff at self-financing colleges. Based on the responses, we are motivated to further investigate the factors affecting the job satisfaction of self-financing college staff. These questions and their responses provide a strategy for identifying key factors influencing the satisfaction of staff in such institutions.

Objective and Contribution. The conclusion of this study is to explore the challenges faced by faculty members in self-financing colleges. We received 74 responses from faculty members across various colleges, and they provided honest and insightful feedback. The primary goal of

this study is to identify the main factors that affect the job satisfaction and work environment of faculty members in self-financing colleges.

Based on the data collected here's a summary and analysis of the responses from the faculty members at self-financing colleges:

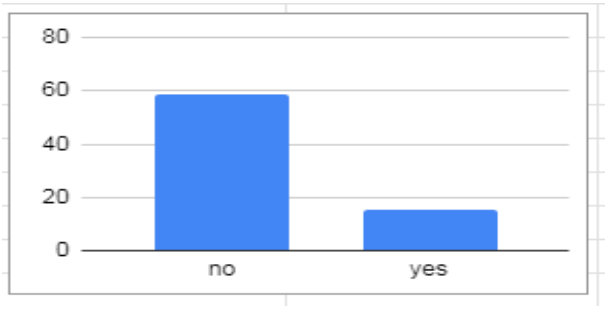

FIGURE 1. Is your salary enough for your family?

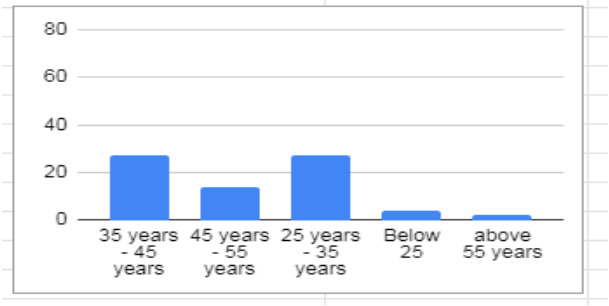

FIGURE 2. How old are you?

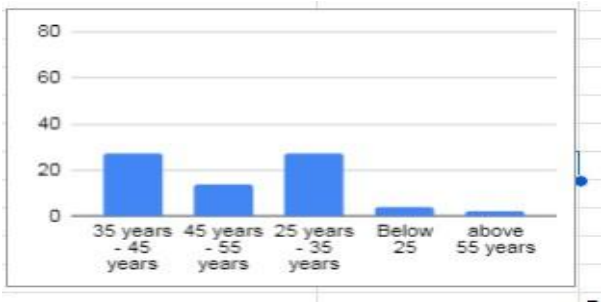

FIGURE 3. Monthly income

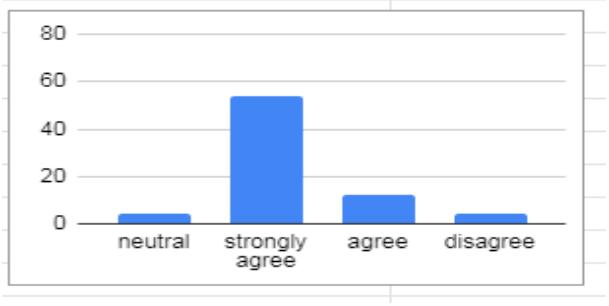

FIGURE 4. Do you believe that self-financing colleges pay teachers much less than the recommended amount?

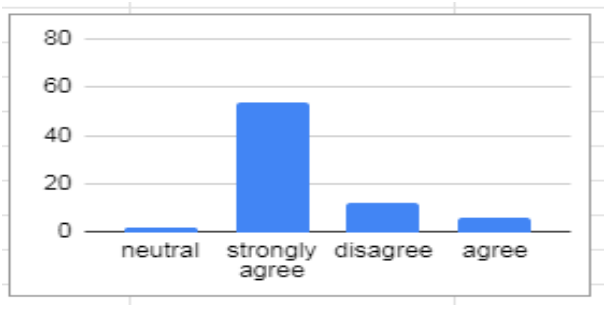

FIGURE 5. Do you feel that the working atmosphere with your Head of Department is positive?

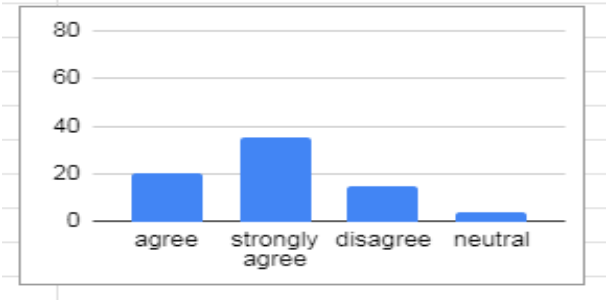

FIGURE 6. Do you feel that the working atmosphere with your principal is positive?

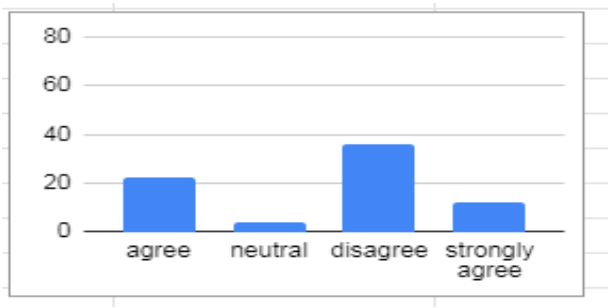

FIGURE 7. Do you feel that the working atmosphere with your Management is positive?

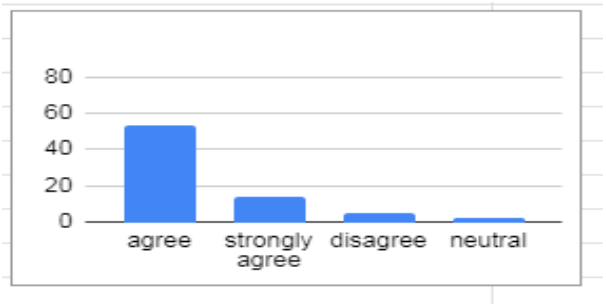

FIGURE 8. Do you feel that the working atmosphere with your student is positive?

Age Distribution:

- 27 faculties (35-45 years)
- 14 faculties (45-55 years)

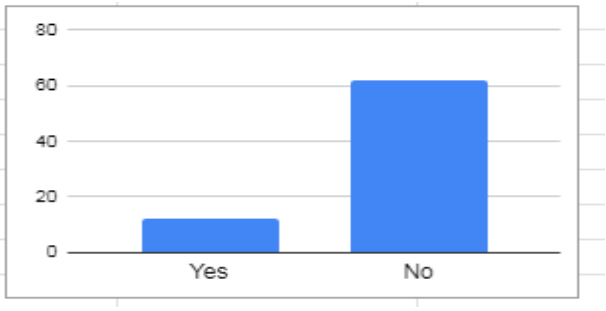

FIGURE 9. Does your college provide a PF and other benefits for retirement?

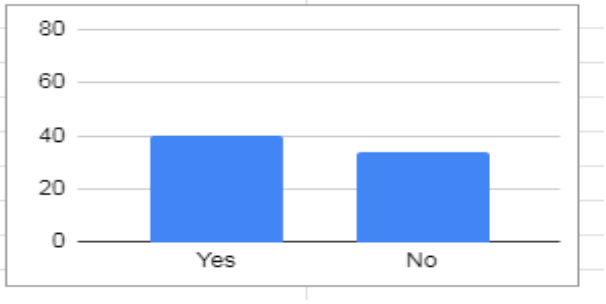

FIGURE 10. Are you enjoying your role at the college?

- 27 faculties (25-35 years)
- 4 faculties (below 25 years)
- 2 faculties (above 55 years)

Respect and Response from Management:

- Strongly Agree: 12 faculty members
- Agree: 22 faculty members
- Neutral: 4 faculty members
- Disagree: 36 faculty members

This suggests that a significant portion of the faculty (36 out of 74) feels that the management does not show respect or respond effectively to their needs, with a smaller group expressing positive views.

Good Working Atmosphere. :

With HOD:.

- Strongly Agree: 54 faculty members
- Agree: 6 faculty members
- Neutral: 2 faculty members
- Disagree: 12 faculty members

Most faculty members (54) have a good working relationship with their Heads of Department (HOD), but there are still some (12) who disagree.

With Management:

- Strongly Agree: 12 faculty members
- Agree: 22 faculty members
- Neutral: 4 faculty members
- Disagree: 36 faculty members

The atmosphere with management is more divisive, with 36 faculty members feeling negatively about it, and only a smaller portion (12) expressing strong agreement.

With Principal:

- Strongly Agree: 35 faculty members
- Agree: 20 faculty members
- Neutral: 4 faculty members
- Disagree: 15 faculty members

Faculty members seem to have a relatively better relationship with the principal compared to management, with a majority expressing positive or neutral views.

With Students:

- Strongly Agree: 14 faculty members
- Agree: 53 faculty members
- Neutral: 2 faculty members
- Disagree: 5 faculty members

Most faculty members have a good working relationship with students, with very few reporting any issues.

Compensation and Benefits: Paying Teachers Below Recommended Amount:

- Strongly Agree: 54 faculty members
- Agree: 12 faculty members
- Neutral: 4 faculty members
- Disagree: 4 faculty members

The overwhelming majority of faculty members feel that the pay is significantly below the recommended amount.

Provident Fund (PF) and Other Retirement Benefits:

- Yes: 12 faculty members
- No: 62 faculty members

A large proportion of faculty members (62) report not receiving any PF or other retirement benefits, which could be a significant concern for their financial security in the long term.

The study indicates several challenges faced by faculty members in self-financing colleges, particularly regarding management respect and compensation. The majority feel underpaid and lacking retirement benefits, while many also report poor interaction with management. However, relationships with students and HODs are more favorable. These findings can be used to highlight areas for improvement, particularly in terms of faculty treatment, pay, and benefits.

Factors affecting self financing college faculties :A Nano Topology Approach

Faculties	Not enough salary	irrespective from management	Below recommended amount
1	yes	yes	yes
2	yes	yes	no
3	yes	yes	yes
4	yes	yes	no
5	yes	no	no
6	yes	yes	yes
7	yes	yes	yes
8	yes	yes	no
9	yes	no	no
10	yes	yes	yes
11	no	no	yes
12	no	yes	yes
13	yes	no	no
14	no	no	yes
15	yes	yes	no

Working atmosphere with Principal is good	Working atmosphere with Management is good
no	yes
yes	no
no	yes
no	no
no	no
yes	no
no	yes
no	no
no	no
yes	no
no	yes
no	yes
no	no
no	yes
yes	no

Working atmosphere with HOD is good	PF benifits	Not satisfied
no	no	yes
no	yes	yes
no	no	no
yes	no	yes
yes	no	no
yes	yes	yes
no	no	no
yes	no	no
yes	no	no
yes	yes	yes
yes	no	no
no	no	no
yes	no	no
yes	no	no
no	yes	yes

It seems that we are working with an information system that involves multiple factors or issues faced by self-financing college faculty members. wee have provided a set of issues (or attributes) represented by the set I and there is a table of entries that reflect the attribute values associated with these issues.

Phase I:**Self financing college faculties are not satisfied with their job**

Let I = $\{NES, IFM, BRA, WAP, WAM, WAH, PFB\}$ be the set with equivalence classes **D** where

- NES: Not Enough Salary
- IFM: Irrespect from Management
- BRA: Below Recommended Amount
- WAP: Working Atmosphere with Principal is good
- WAM: Working Atmosphere with Management is good
- WAH: Working Atmosphere with HOD is good
- PFB: PF Benefits

Assume $Y = \{1, 2, 4, 6, 10, 15\}$ be the set of college faculties are dissatified with their job then
$\mathbf{I/D} = \{\{1, 3, 7\}, \{2, 1515\}, \{4, 8\}, \{5, 9, 13\}, \{6, 10\}, \{11, 14\}, \{12\}\}$,
$\tau_R(Y) = \{I, \phi, \{2, 6, 10, 15\}, \{1, 2, 3, 4, 6, 7, 8, 10, 15\}, \{1, 3, 4, 7, 8\}\}$

- When the attribute " Not enough salary" is removed then $\mathbf{I/D}-(NES) = \{\{1, 3, 7, 12\}, \{2, 15\}, \{4, 8\}, \{5, 9, 13\}, \{6, 10\}, \{11, 14\}\}$, here $\mathbf{L_D}-(NES)(Y) = \{2, 6, 10, 15\}$, $\mathbf{U_D}-(NES)(Y) =$

$\{1, 2, 3, 4, 6, 7, 8, 10, 12, 15\}$, $\mathbf{B_D}-(NES)(Y) = \{1, 3, 4, 7, 8, 12\}$. Therefore Nano Topology

$\tau_R(Y-NES) = \{I, \phi, \{2, 6, 10, 15\}, \{1, 2, 3, 4, 6, 7, 8, 10, 12, 15\}, \{1, 3, 4, 7, 8, 12\}\}$. Hence $\tau_R(Y-NES) \neq \tau_R(Y)$

- When the attribute " Below recommended amount " is removed then $I/\mathbf{D}-(BRA) = \{\{1, 3, 7\}, \{2, 15\}, \{4, 8\}, \{5, 9, 13\}, \{6, 10\}, \{11, 14\}, \{12\}\}$ here $\mathbf{L_D}-(BRA)(Y) = \{2, 6, 10, 15\}$, $\mathbf{U_D}-(BRA)(Y) = \{1, 2, 3, 4, 6, 7, 8, 10, 15\}$, $\mathbf{B_D}-(BRA)(Y) = \{1, 3, 4, 7, 8\}$. Therefore Nano Topology $\zeta_R(Y-BRA) = \{I, \phi, \{2, 6, 10, 15\}, \{1, 2, 3, 4, 6, 7, 8, 10, 15\}, \{1, 3, 4, 7, 8\}\}$. Hence $\zeta_R(Y-BRA) = \tau_R(Y)$
- When the attribute " working atmosphere with HOD is good " is removed then $I/\mathbf{D}-(WAH) = \{\{1, 3, 7\}, \{2, 15\}, \{4, 8\}, \{5, 9, 13\}, \{6, 10\}, \{11, 14\}, \{12\}\}$, $\mathbf{L_D}-(WAH)(Y) = \{2, 6, 10, 15\}$, $\mathbf{U_D}-(WAH)(Y) = \{1, 2, 3, 4, 6, 7, 8, 10, 15\}$, $\mathbf{B_D}-(WAH)(Y) = \{1, 3, 4, 7, 8\}$. Therefore Nano Topology $\zeta_R(Y-WAH) = \{I, \phi, \{2, 6, 10, 15\}, \{1, 2, 3, 4, 6, 7, 8, 10, 15\}, \{1, 3, 4, 7, 8\}\}$. Hence $\zeta_R(Y-WAH) = \tau_R(Y)$.
- When the attribute " PF Benifits " is removed then $I/\mathbf{D}-(PFB) = \{\{1, 3, 7\}, \{2, 15\}, \{4, 8\}, \{5, 9, 13\}, \{6, 10\}, \{11, 14\}, \{12\}\}$, here $\mathbf{L_D}-(PFB)(Y) = \{2, 6, 10, 15\}$, $\mathbf{U_D}-(PFB)(Y) = \{1, 2, 3, 4, 6, 7, 8, 10, 15\}$, $\mathbf{B_D}-(PFB)(Y) = \{1, 3, 4, 7, 8\}$. Therefore Nano Topology $\tau_R(Y-PFB) = \{I, \phi, \{2, 6, T10, 15\}, \{1, 2, 3, 4, 6, 7, 8, 10, 15\}, \{1, 3, 4, 7, 8\}\}$. Hence $\zeta_R(Y-PFB) = \zeta_R(Y)$.
- When the attribute " working atmosphere with management is good " is removed then $I/\mathbf{D}-(WAM) = \{\{1, 3, 7\}, \{2, 15\}, \{4, 8\}, \{5, 9, 13\}, \{6, 10\}, \{11, 14\}, \{12\}\}$, here $\mathbf{L_D}-(WAM)(Y) = \{2, 6, 10, 15\}$, $\mathbf{U_D}-(WAM)(Y) = \{1, 2, 3, 4, 6, 7, 8, 10, 15\}$, $\mathbf{B_D}-(WAM)(Y) = \{1, 3, 4, 7, 8\}$. Therefore Nano Topology $\zeta_R(Y-WAM) = \{I, \phi, \{2, 6, 10, 15\}, \{1, 2, 3, 4, 6, 7, 8, 10, 15\}, \{1, 3, 4, 7, 8\}\}$. Hence $\zeta_R(Y-WAH) = \zeta_R(Y)$.
- When the attribute "working atmophere with principal " is removed then $I/\mathbf{D}-(WAM) = \{\{1, 3, 7\}, \{2, 15\}, \{4, 8\}, \{5, 9, 13\}, \{6, 10\}, \{11, 14\}, \{12\}\}$, here $\mathbf{L_D}-(WAM)(Y) = \{2, 6, 10, 15\}$, $\mathbf{U_D}-(WAM)(Y) = \{1, 2, 3, 4, 6, 7, 8, 10, 15\}$, $\mathbf{B_D}-(WAM)(Y) = \{1, 3, 4, 7, 8\}$. Therefore Nano Topology $\zeta_R(Y-WAM) = \{I, \phi, \{2, 6, 10, 15\}, \{1, 2, 3, 4, 6, 7, 8, 10, 15\}, \{1, 3, 4, 7, 8\}\}$. Hence $\zeta_R(Y-WAP) = \zeta_R(Y)$.
- When the attribute "Irrespect from management " is removed then $I/\mathbf{D}-(IFM) = \{1, 3, 7\}, \{2, 15\}, \{4, 8, 5, 9, 13\}, \{6, 10\}, \{11, 14\}, \{12\}\}$, here $\mathbf{L_D}-(IFM)(Y) = \{2, 6, 10, 15\}\}$, $\mathbf{U_D}-(IFM)(Y) = \{1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 13, 15\}$, $\mathbf{B_D}-(IFM)(Y) = \{1, 3, 4, 5, 7, 8, 9, 13\}$. Therefore Nano Topology $\tau_R(Y-IFM) = \{I, \phi, \{2, 6, 10, 15\}, \{1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 13, 15\}, \{1, 3, 4, 5, 7, 8, 9, 13\}\}$. Hence $\zeta_R(Y-IFM) \neq \zeta_R(Y)$.

  Therefore CORE= {Not enough salary , Irrespective from management}.

Phase II: Self financing college faculties are satified with their job

Let $Y = \{3, 5, 7, 8, 9, 11, 12, 13, 14\}$ be the set of Self financing college faculties are not dissatified with their job then $I/\mathbf{D} = \{\{1, 3, 7\}, \{2, 15\}, \{4, 8\}, \{5, 9, 13\}, \{6, 10\}, \{11, 14\}, \{12\}\}$ and

Nano Topology $\zeta_R(Y) = \{U, \phi, \{5, 9, 1, 3, 4, 5, 7, 8, 9, 11, 12, 13, 14\}, \{11, 12, 13, 14\}, \{1, 3, 4, 7, 8\}\}$.

- When the attribute " Not enough salary " is removed then $I/\mathbf{D}-(NES) = \{\{1, 3, 7, 12\}, \{2, 15\}, \{4, 8\}, \{5, 9, 13\}, \{6, 10\}, \{11, 14\}\}$, $\mathbf{L_D}-(NES)(Y) = \{5, 9, 11, 13, 14\}$, $\mathbf{U_D}-(NES)(Y) = \{1, 3, 4, 5, 7, 8, 9, 11, 12, 13, 14\}$,$\mathbf{B_D}-(NES)(Y) = \{1, 3, 4, 7, 8, 12\}$. Therefore Nano Topology $\zeta_R(Y-NES) = \{I, \phi, \{5, 9, 11, 13, 14\}, \{1, 3, 4, 5, 7, 8, 9, 11\}, \{1, 3, 4, 5, 7, 8, 9, 12, 13, 14\}, \{1, 3, 4, 7, 8, 12\}\}$. Hence $\zeta_R(Y-NES) \neq \zeta_R(Y)$.
- When the attribute " Below recommended amount" is removed then $I/\mathbf{D}-(BRA) = \{\{1, 3, 7\}, \{2, 15\}, \{4, 8\}, \{5, 9, 13\}, \{6, 10\}, \{11, 14\}, \{12\}\}$, here $\mathbf{L_D}-(BRA)(Y) = \{5, 9, 11, 12, 13, 14\}$, $\mathbf{U_D}-(BRA)(Y) = \{1, 3, 4, 5, 7, 8, 9, 11, 12, 13, 14\}$, $\mathbf{B_D}-(BRA)(Y) = \{1, 3, 4, 7, 8\}$. There-

fore Nano Topology $\tau_R(Y-BRA) = \{I, \phi, \{5, 9, 11, 12, 13, 14\}, \{1, 3, 4, 5, 7, 8, 9, 11, 12, 13, 14\}, \{1, 3, 4, 7, 8\}\}$. Hence $\zeta_R(Y-BRA) = \zeta_R(Y)$.

- When the attribute " working atmophere with HOD " is removed then $I/\mathbf{D}-(WAH) = \{\{1, 3, 7\}, \{2, 15\}, \{4, 8\}, \{5, 9, 13\}, \{6, 10\}, \{11, 14\}, \{12\}\}$, here $\mathbf{L}_{(\mathbf{D}-WAH)}(Y) = \{5, 9, 11, 12, 13, 14\}$,
$\mathbf{U}_{(\mathbf{D}-WAH)}(Y) = \{1, 3, 4, 5, 7, 8, 9, 11, 12, 13, 14\}$, $\mathbf{B}_{(\mathbf{D}-WAH)}(Y) = \{1, 3, 4, 7, 8\}$. Therefore the nano topology is given by $\tau_R(Y-WAH) = \{I, \phi, \{5, 9, 11, 12, 13, 14\}, \{1, 3, 4, 5, 7, 8, 9, 11, 12, 13, 14\}, \{1, 3, 4, 7, 8\}\}$. Hence $\zeta_R(Y-WAH) = \tau_R(Y)$.

- When the attribute " working atmophere with Management " is removed then $I/\mathbf{D} - (WAM) = \{\{1, 3, 7\}, \{2, 15\}, \{4, 8\}, \{5, 9, 13\}, \{6, 10\}, \{11, 14\}, \{12\}\}$, here $\mathbf{L}_{\mathbf{D}-(WAM)}(Y) = \{5, 9, 11, 12, 13, 14\}$, $\mathbf{U}_{\mathbf{D}-(WAM)}(Y) = \{1, 3, 4, 5, 7, 8, 9, 11, 12, 13, 14\}$, $\mathbf{B}_{\mathbf{D}-(WAM)}(Y) = \{1, 3, 4, 7, 8\}$ nano topology is $\tau_R(Y - WAM) = \{I, \phi, \{5, 9, 11, 12, 13, 14\}, \{1, 3, 4, 5, 7, 8, 9, 11, 12, 13, 14\}, \{1, 3, 4, 7, 8\}\}$. Hence $\zeta_R(Y - WAM) = \zeta_R(Y)$.
- When the attribute "Irrespect from Management" is removed then $I/\mathbf{D} - (IFM) = \{\{1, 3, 7\}, \{2, 15\}, \{4, 8, 5, 9, 13\}, \{6, 10\}, \{11, 14\}, \{12\}\}$, here $\mathbf{L}_{\mathbf{D}-IFM)}(Y) = \{11, 12, 14\}$, $\mathbf{U}_{\mathbf{D}-(IFM)}(Y) = \{1, 3, 4, 5, 7, 8, 9, 11, 12, 13, 14\}$, $\mathbf{B}_{\mathbf{D}-(IFM)}(Y) = \{1, 3, 4, 5, 7, 8, 9, 13\}$.Therefore Nano Topology $\zeta_R(Y-IFM) = \{I, \phi, \{11, 12, 14\}, \{1, 3, 4, 5, 7, 8, 9, 11, 12, 13, T14\}, \{1, 3, 4, 5, 7, 8, 9, 13\}\}$. Hence $\zeta_R(Y - IFM) = \zeta_R(Y)$
- When the attribute "working atmophere with principal " is removed then $I/\mathbf{D}-(WAP) = \{\{1, 3, 7\}, \{2, 15\}, \{4, 8\}, \{5, 9, 13\}, \{6, 10\}, \{11, 14\}, \{12\}\}$, here $\mathbf{L}_{\mathbf{D}-(WAP)}(Y) = \{5, 9, 11, 12, 13, 14\}$, $\mathbf{U}_{\mathbf{D}-(WAP)}(Y) = \{1, 3, 4, 6, 7, 8, 10, 12, 5\}$, $\mathbf{B}_{\mathbf{D}-(WAP)}(Y) = \{1, 3, 4, 7, 8\}$. Therefore the nano topology is given by $\zeta_R(Y-WAP) = \{I, \phi, \{5, 9, 11, 12, 13, 14\}, \{1, 3, 4, 6, 7, 8, 10, 12, 5\}, \{1, 3, 4, 7, 8\}\}$. Hence $\zeta_R(Y - WAP) \neq \zeta_R(Y)$.
- When the attribute " PF benifits" is removed from C then $I/\mathbf{D}-(PFB) = \{\{1, 3, 7\}, \{2, 15\}, \{4, 8\}, \{5, 9, 13\}, \{6, 10\}, \{11, 14\}, \{12\}\}$, here $\mathbf{L}_{\mathbf{D}}-(PFB)(Y) = \{5, 9, 11, 12, 13, 14\}$, $\mathbf{U}_{\mathbf{D}}-(PFB)(Y) = \{1, 3, 4, 5, 7, 8, 9, 11, 12, 13, 14\}$, $\mathbf{B}_{\mathbf{D}}-(PFB)(Y) = \{1, 3, 4, 7, 8\}$.Therefore Nano Topology $\zeta_R(Y - PFB) = \{I, \phi, \{5, 9, 11, 12, 13, 14\}, \{1, 3, 4, 5, 7, 8, 9, 11, 12, 13, 14\}, \{1, 3, 4, 7, 8\}\}$. Hence $\zeta_R(Y - PFB) \neq \zeta_R(Y)$

Therefore CORE = {Not enough salary , Irrespective from management}.

Observation From the above two phases it is observable that the primary outcome which is meant to be the CORE is **Not enough salary ,Irrespective from management**.

CONCLUSION

The conclusion drawn from this study highlights the major challenges faced by self financing college staff, with the two most prominent issues is Inadequate Salary and Lack of Support from Management.These results were derived using nano topological space, which likely refers to an advanced analytical method for understanding complex patterns and relationships in the data. The use of this approach has allowed for a deeper, more nuanced understanding of the underlying issues affecting self-financing college staff.The findings underscore the need for substantial reforms, including salary increases, better support structures, and more transparent and fair management practices to ensure that faculty members are properly compensated and valued.

Suggestions: Based on the analysis of the data, the following suggestions are made to address the issues faced by self-financing college staff

- Salary Revisions According to Experience and Qualifications: The study reveals that many self-financing college staff members are not receiving adequate salaries. It is suggested that management should revise salary structures based on the professors' experience and qualifications. This would help recognize the value and expertise that the faculty brings to the institution.
- Salary Adjustment According to UGC Norms: A significant number of respondents indicated that their salaries are insufficient to meet basic living expenses. Therefore, it is recommended that management increase salaries in line with the guidelines and norms set by the University Grants Commission (UGC) to ensure that the staff can maintain a decent standard of living.
- Government Intervention: The study suggests that the government should intervene in self-financing institutions to ensure fair treatment and fair compensation for the faculty. Regular monitoring of management practices can help in identifying and addressing issues such as inadequate salaries and exploitation.
- Formation of Trade Unions: The government should support and encourage the formation of trade unions for self-financing professors. These unions can provide a collective

voice for faculty members and advocate for better working conditions and benefits.

- Tripartite Forum for Discrepancies: If any discrepancies arise in the treatment or payment of self-financing college staff, the government should consider establishing a tripartite forum involving the management, the staff, and the government. This forum can help in resolving issues in a balanced and transparent manner, ensuring fairness and accountability.

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- Compliance with Ethical Standards:
  This article does not contain any studies with human participants or animals performed by any of the authors.
- Consent to participate -Not Applicable
- Consent for publication -Not Applicable
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  Authour 1 - Review and Editing the Manuscript .
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