COMMUNITY ENGAGEMENT, THE CONTEXT FOR TEACHERS’ WORK-EFFICIENCY? A TISM APPROACH

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ABSTRACT

Purpose: The main purpose of this research work is to find the scope of enhancing the teachers’ work-efficiency through the logical linkages of emotional exhaustion, attitude, knowledge management (KM), and community-engagement.

Methods: With a qualitative research approach, i.e.: Total Interpretive Structural Modeling (TISM), this study tried to explore the intricate relationships between the aforesaid components in Indian context. With the overview of community engagement having its significant importance in educational settings, research problem is defined, which guided for extensive literature review, the core part of TISM. The study utilizes fundamentals of ISM along with the contextual relationships to reach the hierarchical model of TISM to visually represent the relationships between the identified factors, reflecting their driving power and dependency power.

Results & discussions: This study established the complete interpretations of the linkages among variables through developed model of TISM. Further, this research-work shows how the identified factors collectively contribute to teachers’ overall work-efficiency, where online customer-engagement and offline customer-engagement forms the context for the attitude and KM, and emotional exhaustion that are in turn leads to work-efficiency of teachers.

Implications of the study: This study highlights the scopes for comprehensive strategies to enhance work-efficiency of teachers through fostering positive attitudes and effective KM on the ground of community-engagement, where emotional exhaustion is managed adequately.

Keywords: Community-Engagement, Knowledge Management, Attitude, Work-Efficiency, Teachers, Emotional Exhaustion.

ENVOLVIMENTO COMUNITÁRIO, O CONTEXTO PARA A EFICIÊNCIA DO TRABALHO DOS PROFESSORES? UMA ABORDAGEM TISM

RESUMO

Objetivo: O principal objectivo deste trabalho de investigação é encontrar a possibilidade de melhorar a eficiência do trabalho dos professores através das ligações lógicas de exaustão emocional, atitude, gestão do conhecimento (GC) e envolvimento da comunidade.

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**Métodos:** Con una abordaje de pesquisa qualitativa, ou seja, Modelagem Estrutural Interpretativa Total (TISM), este estudio tentou explorar as intrincadas relações entre os componentes acima mencionados no contexto indiano. Com a visão geral do envolvimento comunitário tendo sua importância significativa em ambientes educacionais, é definido o problema de pesquisa que orientou uma extensa revisão da literatura, parte central do TISM. O estudo utiliza os fundamentos do ISM juntamente com as relações contextuais para chegar ao modelo hierárquico do TISM para representar visualmente as relações entre os fatores identificados, refletindo seu poder motriz e poder de dependência.

**Resultados e discussões:** Este estudio estableceu as interpretações completas das ligações entre as variáveis através do modelo desenvolvido de TISM. Além disso, este trabalho de pesquisa mostra como os fatores identificados contribuem coletivamente para a eficiência geral do trabalho dos professores, onde o envolvimento do cliente online e o envolvimento do cliente offline formam o contexto para a atitude e GC, e a exaustão emocional que, por sua vez, leva ao trabalho -eficiência dos professores.

**Implicações do estudo:** Este estudio destaca as possibilidades de estratégias abrangentes para melhorar a eficiência do trabalho dos professores através da promoção de atitudes positivas e de uma GC eficaz com base no envolvimento da comunidade, onde a exaustão emocional é gerida de forma adequada.

**Palavras-chave:** Engajamento Comunitário, Gestão do Conhecimento, Atitude, Eficiência no Trabalho, Professores, Exaustão Emocional.

**PARTICIPACIÓN COMUNITARIA, ¿EL CONTEXTO PARA LA EFICIENCIA EN EL TRABAJO DOCENTE? UN ENFOQUE TISM**

**RESUMEN**

**Propósito:** El objetivo principal de este trabajo de investigación es encontrar el alcance para mejorar la eficiencia laboral de los docentes a través de los vínculos lógicos entre el agotamiento emocional, la actitud, la gestión del conocimiento (KM) y la participación comunitaria.

**Métodos:** Con un enfoque de investigación cualitativa, es decir: Modelado Estructural Interpretativo Total (TISM), este estudio intentó explorar las intrincadas relaciones entre los componentes antes mencionados en el contexto indio. Dado que la descripción general de la participación comunitaria tiene una importancia significativa en los entornos educativos, se define el problema de investigación, que guió una revisión extensa de la literatura, la parte central de TISM. El estudio utiliza fundamentos de ISM junto con las relaciones contextuales para alcanzar el modelo jerárquico de TISM para representar visualmente las relaciones entre los factores identificados, reflejando su poder impulsor y poder de dependencia.

**Resultados y discusiones:** Este estudio estableció las interpretaciones completas de los vínculos entre variables a través del modelo desarrollado de TISM. Además, este trabajo de investigación muestra cómo los factores identificados contribuyen colectivamente a la eficiencia laboral general de los docentes, donde la participación del cliente en línea y fuera de línea forma el contexto para la actitud y la KM, y el agotamiento emocional que a su vez conduce al trabajo -eficiencia de los profesores.

**Implicaciones del estudio:** Este estudio destaca los alcances de estrategias integrales para mejorar la eficiencia laboral de los docentes mediante el fomento de actitudes positivas y una gestión del conocimiento eficaz sobre la base de la participación comunitaria, donde el agotamiento emocional se gestiona adecuadamente.

**Palabras clave:** Compromiso Comunitario, Gestión del Conocimiento, Actitud, Eficiencia en el Trabajo, Docentes, Agotamiento Emocional.

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1 INTRODUCTION

“Knowledge management (KM) is a systematic and cohesive procedure implemented at the organizational level, wherein individuals and collectives engage in the generation, dissemination, and utilization of knowledge to achieve the objectives (Zhang et al., 2010) of the organization”. Despite the growing popularity and numerous advantages of KM like acquisition and utilization of knowledge & information, there is a prevalent confusion between this concept and others (Cajková et al., 2023). On the other hand, the concept of community engagement (CE) has received relatively limited attention in academic discourse, but current research trends and the practical implementation of CE in various industries and academia worldwide are increasingly directing their attention towards this field. A strong community engagement can be described as a diverse collection of individuals who collaborate towards a common goal, guided by shared values, beliefs, and standards (Aslin & Brown, 2004). In the context of a digitally oriented society, achieving effective community engagement rely on information-driven platform, documentation of local narratives within knowledge management frameworks, allocation of grants by regional entities to facilitate streamlined processes, and the provision of government-sponsored support for community members to participate in community development activities (King & Cruickshank, 2012). Hence, this research focuses on community engagement and its relationship with KM within Indian school context.

Knowledge management (KM) concepts and methodologies aid educational institutions in effectively managing their intangible assets, where KM has the potential to enhance efficiency and performance of educational institutions that face numerous challenges, which leads to adoption of comprehensive approach to find the solutions (Khakpour, 2015). Additionally, perceive KM of school administrators and instructors is beneficial for personal advancement (Dotan & Yitit, 2014) with some concerns regarding potential negative impact of KM on communication and dedication. This issue warrants researchers’ attention regarding teachers’ attitude. According to a study, it is imperative to undertake substantial reforms in the pre-service training of educators, their ongoing professional development, the administrative structures governing school and state systems, as well as the attitudes and behaviors of the public (Carroll et al., 2003). So, it is wise to infer that community participation may enable teachers to know about the requirement of their attitudinal changes, which can be accomplished by knowledge management. KM approaches and educational perspective of school-teachers are closely intertwined, where the endeavors of students to establish a constructive educational environment is enhancing their attitudes towards learning, thereby strengthening teachers’ self-
assurance in their own competence (Li et al., 2009). Complementing the above fact, another study says that knowledge management and staff development practices have significant impact on human capital, but its influence on social capital is comparatively limited, which can be mitigated by the implementation of knowledge management strategies (Al-Tit et al., 2022). So, KM along the teachers’ attitude can handle the emotional exhaustion.

Both the individuals’ work-performance (Kang et al., 2008) and organization's performance (Endres and Chowdhury, 2013) are positively correlated with the knowledge sharing and trust of concerned individuals, which can foster a conducive work-atmosphere within the organization. On the other hand, it is found by a study that the factors like organizational mindset, employee motivation, recognition from peers, and organizational commitments have the ability for effective implementation of KM (Sayyadi et al., 2020) and have the scope of encompassing the emotional exhaustion. So, it is a logical inference that emotional exhaustion may be linked to teachers’ work-efficiency in the context of Indian schools as the work efficiency is treated as ultimate parameter for judging both individuals’ performance and organizational performance.

1.1 RESEARCH PROBLEM

“Whether work-efficiency of teachers can be enhanced on the ground of community engagement, and its logical linkages with teachers' attitudes, knowledge management, and emotional exhaustion?”

1.2 RESEARCH QUESTIONS

*RQ1.* Can the community engagement build the ground for teachers in Indian scenario for their work-efficiency?

*RQ2.* How is the community engagement related to teachers’ attitude, emotional exhaustion, and knowledge management?

*RQ3.* What roles do the teachers’ attitude, emotional exhaustion, and knowledge management play in enhancing the teachers’ work efficiency?

*RQ4.* How much driving power the community engagement, attitude, emotional exhaustion, and knowledge management carry for the enhancement of teachers’ work-efficiency?
2 RESEARCH METHODOLOGY & DESIGN

The present study employed descriptive research design, where the problem statement of this research-work is formulated based on the comprehensive understanding of community engagement with own experience, and general observations regarding teachers’ attitude & emotional exhaustion in the typical Indian schools. The ‘research problem’ paved the way for reviewing scholarly research in the related areas. Subsequently, research questions are formulated within conceptual frameworks that are derived from literature review. With respect to the research problem, the attributes of community engagement are tried to be logically connected with the characteristics of teachers’ attitude, emotional exhaustion, and knowledge management processes through extensive literature review. The examination of existing literature has facilitated the authors of this research-work to study four research-questions, which ultimately give rise to developmental implications of the above said logical linkages as these logical linkages are aiming to work-efficiency of the teachers. These logical linkages are proved through The TISM (Total Interpretive Structural Modeling), a qualitative research approach, because TISM outstrips the interpretive structural modelling (ISM) for the order of preference with a resemblance of ideal solution (Sushil, 2012; Jayalakshmi and Dubey, 2015; Jena et al., 2016), where TISM method is beneficial for decision modelling. The TISM method breaks down community participation and tried to link it to the teachers’ attitude, knowledge management, and emotional exhaustion. In this manner, a TISM-model is developed that can be utilized by the public planners and other such authorities to address the critical issues of teachers’ work-efficiency on the ground of community engagement and knowledge management in Indian school setting. The TISM approach is executed with the following steps.

Step-1: Elements for TISM are identified and defined through extensive literature review and opinions of experts. Step-2: The contextual linkages between the elements are determined and stated in order to model those elements. Furthering the steps towards TISM, the traditional ISM (Interpretive Structural Modeling) approach is followed by this study to interpret the said linkages, because basics of ISM says that it improves system models that are unclear or poorly articulated (Poduval et al., 2015) and helps in articulating the ideas for model representation. Step-3: Pair-wise comparison is made by interpretive logic, where every element is compared with the rest of the elements separately. With two possible directional links i-j or j-i, total number of pair-wise comparisons for ‘n’ identified elements will be n(n-1), i.e., creation of structural self-interaction matrix (SSIM). Then SSIM is translated into initial reachability matrix in binary form (0 and 1). The i\(^{th}\) element is compared independently to all
the elements from \((i-1)^{th}\) to the \(n^{th}\) element. So, there are \(n(n-1)/2\) paired comparisons. Since each pair of elements \((i, j)\) may have two possible directional links \((i - j)\) or \((j - i)\), there will be in all \(n(n - 1)\) rows in the knowledge base. 

**Step-4:** With the transitivity test, the final reachability matrix is obtained from the initial reachability matrix. 

**Step-5:** Level partitioning is made by preparing ‘reachability set’ and ‘antecedent set’ for each element on the basis of final reachability matrix. The intersection of the above said two sets is established for each element to establish levels. Hence, level partitioning is done iteratively. 

**Step-6:** Digraph (directed graph) is developed by placing each element at the appropriate level as obtained from previous step and then creating directed linkages according to the relationship shown in the reachability matrix. 

**Step-7:** An interpretive matrix is prepared from the final digraph through the binary interaction matrix that depicts all interactions with ‘1’ in the respective cells. 

**Step-8:** Total Interpretive Structural Model (TISM) is developed for the chosen elements with the assistance of digraph and interpretive matrix. The digraph is substantiated with interpretations of all relevant linkages. Further, this hierarchy-based approach shows which parts drive and are driven.

### 3 LITERATURE REVIEW & THEORETICAL FRAMEWORK

#### 3.1 COMMUNITY ENGAGEMENT AND KNOWLEDGE MANAGEMENT

Knowledge management (KM) is important in educational organizations because it provides ideas and practices for managing intellectual assets, hence boosting process efficiency and effectiveness (Khakpour, 2015). Despite increased interest in KM and its benefits, there is some ambiguity with words such as knowledge, information, and data (Cajková et al., 2023). KM helps non-profit organizations capture and share organizational knowledge via social media, allowing for community engagement and humanitarian activities (Forcier et al., 2014). Community engagement also gets benefits from integrated systems for knowledge management, which fosters positive discourse across communities (Aslin & Brown, 2004). Information-based websites, documenting local project tales, granting funds, and optimizing processes are some measures of community participation (King & Cruickshank, 2012).

Having a supportive and collaborative attitude toward teachers' and school leaders' jobs has the potential to improve capacity building, initial teacher training, and ongoing professional development (Gale et al., 2022). KM has a positive effect on teaching-learning activities, encouraging a culture of sharing and learning among teachers and making them more
independent (Doringin et al., 2020). Even though most of the KM dimensions are used by elementary school teachers, knowledge storage and retrieval are the most common, and knowledge sharing is the least common (Supermane & Tahir, 2018), which refer that a paradigm shift is needed in teacher education, learning on the job, structures of school & state, and public views to change regarding how the teachers do their jobs (Carroll et al., 2003). School managers and teachers think that KM hurts communication and commitment, even though they know that KM is good for them personally (Dotan & Yitit, 2014); a significant link of KM exist with employee empowerment (Hasani & Sheikhesmaeili, 2016) and even link with performance of personnel along the ‘positive work-attitude that enhances motivation’, skills, and dedication in higher education institutions (Syarifuddin et al., 2021) to achieve the desired productivity and goal through informed decision-making. So, continuous community engagement can clarify the teachers’ thought regarding knowledge management.

3.2 COMMUNITY ENGAGEMENT AND TEACHERS’ ATTITUDE

Teachers have different attitudes about the students including students carrying special needs in the general curriculum of elementary schools, where most teachers are either neutral or negative for the students of special need (Boer et al., 2011). Additionally, the educators must be well-informed by engaging themselves in social community to know & accepting the people with any specific disorder (Abulhamail et al., 2014). So, teachers should have the ability to build partnerships between school and different families understanding social justice, inclusion, and teamwork (Lasater et al., 2023), which can be acquired through teachers’ training, knowledge, and experience in special education for students with disabilities in general education classrooms (Reusen et al., 2001). So, logical inference can be drawn that community engagement can be linked with teachers’ attitude.

Students think that their teachers’ knowledge management (KM) method is focused on applying knowledge, sharing information, and making new knowledge (Li et al., 2009), where KM and sharing of information within organizations are helped by things like personal traits, attitude, organizational culture, and trust (Santhose & Lawrence, 2023). On the other hand, some education programs that are culturally grounded and based on local beliefs and practices help to spread the native spirit, help the tribal organizations and communities (Hunter et al., 2022); and human capital, KM, and social capital are all affected by employee growth processes, where there is a big effect of KM on human capital, but not on social capital (Al-Tit
et al., 2022). In short, the way educators think and how involved they are in their communities, are influencing their attitude and manage their knowledge in Indian school education system.

### 3.3 COMMUNITY ENGAGEMENT AND WORK EFFICIENCIES OF TEACHERS

Knowledge is seen as a valuable strategic asset both for organizations and their employees. Due to how important it is, many employees don't like to share their information with others (Kelloway & Barling, 2000). Transformational leadership, on the other hand, has been shown to make employees work better. Dwivedi & Chaturvedi's (2020) in their study say that the effect of transformational leadership on employee efficiency is fully mediated by the adoption of knowledge sharing. Knowledge creation and use have a good effect on the productivity of knowledge workers, but sharing knowledge does not have statistically significant effect on this. Kianto et al. (2019) found that gender, managerial position, and formal education level do not have a big effect on the link between knowledge management (KM) and knowledge worker output. Alyoubi et al. (2018) found that putting knowledge management tasks into place in academic libraries makes employees happier at work and improves how well they do their jobs. Attitudes and plans of employees to share their knowledge are linked to motivational factors like getting something in return, feeling confident in their own knowledge, and enjoying helping others. However, Lin (2007) found that expected organizational benefits do not have a big effect on these attitudes and actions. Collaboration between school officials and teachers is a key part of building "professional communities" that support each other and help teachers get better at what they do. Kilag et al. (2023) say that these professional groups help students do better on standardized math tests while Hon et al. (2020) say that the key thing that decides the success of knowledge management in secondary schools is the knowledge of the leaders and the ICTs team.

### 3.4 KNOWLEDGE MANAGEMENT AND TEACHERS’ ATTITUDE

Knowledge management (KM) is an ongoing process that lets workers get help and advice from their peers and bosses (Soto-Acosta et al., 2018), making it easy for them to put what they've learned to use and do a good job at their jobs. Its main parts, like getting, using, and sharing information, have a direct effect on how motivated teachers are and how happy academic staff are (Brennan & Merkl-Davies, 2018) when people in an organization share their information, it gives them a competitive edge, encourages innovation, and helps them do their
jobs better (Zhang et al., 2006; Haas & Hansen, 2007). Vij & Farooq (2014) found that a focus on sharing information has a positive effect on business performance and that the age of the company has no effect on this relationship. Sayyadi et al., (2020) state five important things that need to be in place for KM to work: organizational mindset, employee motivation, peer recognition, and organizational commitment. Research shows that organizational structure, culture, leadership, and trust have a big effect on KM, which is directly and indirectly affecting organizational performance via human-capital (Rezaei et al., 2021). Information sharing helps everyone in an organization to realize strengths and weaknesses that in turn pave the good ways to improve their performance (Farhan & Muhaimin, 2019; Ho, 2011) and make the people think for the success of organization (Endres & Chowdhury, 2013), because trust between people who share knowledge has a positive effect on individual’s work performance (Kang et al., 2008) especially on the success of educational institution as information sharing supports innovative structural knowledge (Sahibzada et al., 2020) that ultimately take the form of knowledge management. Overall, a good KM method makes collaborative, efficient, and competitive organization's success, and progress as KM along skill and attitude has positive effects on employees’ performance (Haji et al., 2020). Further, components of the KM process (obtaining, organizing & applying of KM) show positive relation with the organizational performance measured in terms of employee satisfaction (Khanal & Poudel, 2017).

3.5 DIMENSION OF EMOTIONAL EXHAUSTION IN THE CONTEXT OF WORK EFFICIENCY

Organisations need knowledge management tools because people use them to learn more and become more knowledgeable, which makes their organisations more productive (Zargar & Rezaee, 2013). On the other hand, emotional exhaustion hurts organisational commitment and job satisfaction, and its role as a link between job success and emotional intelligence, optimism, and social skills was also confirmed by Moon & Hur (2011). In our research context it has been seen that first-year teachers and candidates face emotional exhaustion and poor self-efficacy (Dicke et al., 2015; Voss et al., 2017). Teachers’ emotional exhaustion negatively affects their pupils' class average grades, standardized achievement test scores, school pleasure, and teacher support, apart from self-esteem (Arens & Morin, 2016) and when self-efficacy in classroom management is poor, it leads to emotional exhaustion (Dicke et al., 2014), which makes emotional skill development vital as it reduces work stress, also enhances job retention (Bande et al., 2015).
Knowledge management negatively predicts role conflict, uncertainty, and workload that are ultimately raising role ambiguity and lowers the performance, where emotional exhaustion affects job ambiguity, workload, and performance (Parayitam et al., 2021); and emotional exhaustion improves knowledge sharing and reduces the influence of harmful supervisory behavior along organizational fairness (Sabzi et al., 2019). In a complex interaction consequence of emotional work, emotional exhaustion and workplace attitudes are numerous (Bozionelos & Kiamou, 2008), where attitude like workplace rudeness leads to inefficiency, emotional fatigue, and while mental exhaustion & cynicism also minimise efficiency (Butt & Yazdani, 2021). Further, male instructors reported emotional exhaustion and personal failure, where workplace and hours generated stress; age and job satisfaction increased emotional exhaustion (Anastasiou & Belios, 2020). In addition, that engagement, job satisfaction, and emotional weariness were independently predicted by teacher autonomy and self-efficacy (Skaalvik & Skaalvik, 2014). So, the work-efficiency is said to have linkage with emotional exhaustion of the teachers in such an environment, where attitude, KM, and community engagement play the important roles.

3.6 THEORETICAL FRAMEWORK

Teachers face substantial difficulties in the fast-growing social settings in the socio-educational area, especially in the era of technology-driven education (Rini, 2024), where multimedia interactive visual learning is enhancing the students’ learning outcomes or creativity (Nurkanti & Yasundari, 2024). So, the education system should address the dynamism of the society that can increases the homogeneity of society by preparing the young generation to face challenges in the society (Baghirov, 2024), which can be possible by the teachers’ community-engagement in a strategic way. Adequate and appropriate community-engagement can develop positive attitude, because students preferably implement their association capability and take the help of teachers to solve the problems rather than linking their acquired knowledge (Trang et al., 2024). That means, not only the positive attitude but also knowledge management becomes productive on the ground of community-engagement that this research-work is intended to study. Further, the above logical relationship can be connected with teachers’ work-efficiency.
4 RESULTS & DISCUSSIONS

In this piece of research-work, the method that is used involves step-by-step methodical approach for conducting the analysis, engaging in result interpretation, and discussions.

4.1 IDENTIFICATION AND DEFINITION OF ELEMENTS

1. Online Community engagement (On-CE): Community engagement is how engaged and interested people are online. It's the organization’s purposeful efforts to recruit new members and help existing ones build meaningful connections;
2. Offline Community engagement (Off-CE): Engagement in an offline community means how busy and involved the people who belong to it are. It's the work an organization does to bring in new members and help the ones you already have connect with each other in a useful way;
3. Knowledge Management (KM): KM refers to the systematic approach of recognizing, arranging, preserving, and distributing information within an organizational contexto;
4. Attitude of teachers (TA): It is a generally consistent appraisal of a particular entity, which changes in intensity (strength) and favorability (valence), and which tends to direct a teacher’s responses to that object/activity. In other words, it is a grading scale;
5. Emotional Exhaustion (EE): Individuals experience a state of emotional exhaustion and depletion when they encounter persistent stress due to undesirable or challenging life situations. This scenario may arise when one finds themselves in a circumstance characterized by a continuous succession of occurrences;
6. Work efficiency of teachers (WEoT): Individuals work productively when they can do most things quickly and successfully. Working this way boosts output. Companies encourage employees to work more efficiently to boost business success.

4.2 SSIM, INITIAL AND FINAL REACHABILITY MATRIXES

The literature review and experts' opinions determine the contextual interaction between various components/variables of interest, which leads to a structural self-interaction matrix (Jayalakshmi & Pramod, 2015) and the initial and final reachability matrices. "Enabler A will influence or enhance enabler B” is the contextual relationship between elements. An example is "community engagement through teachers' attitude can improve their performance". By this
way, the creation of the initial reachability matrix involves the conversion of the structural self-interaction matrix (SSIM) into a binary representation consisting of 0s and 1s. Then the final reachability matrix is obtained by verifying the transitivity of the initial reachability matrix. If A is linked to B, and B is related to C, then A is also related to C, as a rule of thumb (Table 1).

Table 1

SSIM and Initial to final reachability matrix

<table>
<thead>
<tr>
<th>j</th>
<th>On-CE</th>
<th>Off-CE</th>
<th>KM</th>
<th>AToT</th>
<th>EE</th>
<th>WToT</th>
<th>Driving Power</th>
</tr>
</thead>
<tbody>
<tr>
<td>On-CE</td>
<td>X</td>
<td>V</td>
<td>V</td>
<td>V</td>
<td>V</td>
<td></td>
<td>6</td>
</tr>
<tr>
<td>Off-CE</td>
<td>V</td>
<td>V</td>
<td>V</td>
<td>V</td>
<td>V</td>
<td></td>
<td>6</td>
</tr>
<tr>
<td>KM</td>
<td>X</td>
<td>V</td>
<td>V</td>
<td>V</td>
<td>V</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>TA</td>
<td>X</td>
<td>V</td>
<td>V</td>
<td>V</td>
<td>V</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>EE</td>
<td></td>
<td>V</td>
<td>V</td>
<td>V</td>
<td>V</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>WToT</td>
<td></td>
<td></td>
<td>V</td>
<td>V</td>
<td>V</td>
<td></td>
<td>1</td>
</tr>
</tbody>
</table>

The above symbols and figures show that the contextual relationships are established (table 1a) based on the established rules - (1) influence of ‘i’ on ‘j’ symbolized by ‘V’; (2) influence of ‘j’ on ‘i’ symbolized by ‘A’; (3) The influence of ‘i’ on ‘j’ and simultaneously ‘j’ on ‘i’ symbolized by ‘X’; (4) Non-existence of influence from either side (‘i’ and ‘j’) symbolized by ‘O’. On the basis of structural self-interaction matrix (SSIM), the initial reachability matrix is prepared with 0s and 1s. With the transitivity checking (table 1b), we found three transitive relationships (1*), which will be incorporated in the next steps of model formation process.

4.3 LEVEL PARTITIONING

The level partitioning of the final reachability matrix is done iteratively. Moreover, the intersection of these two sets is established for each element. The elements, for which the reachability set, and intersection set are same, will achieve the top level in the TISM hierarchy and the iteration follows. Subsequently in the level partition, we differentiated the levels in which the elements of the study will lie in the model which will lead us to the final stages of the TISM study (table 2).
### Table 2

*Level partitioning with four iterations*

<table>
<thead>
<tr>
<th>Iteration 1</th>
<th>Factors</th>
<th>Reachability</th>
<th>Antecedent</th>
<th>Intersection</th>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>On-CE/En1</td>
<td>1,2,3,4,5,6</td>
<td>1,2</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Off-CE/En2</td>
<td>1,2,3,4,5,6</td>
<td>1,2</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>KM/En3</td>
<td>3,4,5,6</td>
<td>1,2,3,4</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>AT/En4</td>
<td>3,4,5,6</td>
<td>1,2,3,4,5</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>EE/En5</td>
<td>4,5,6</td>
<td>1,2,3,4,5</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>WEoT/En6</td>
<td>6</td>
<td>1,2,3,4,5,6</td>
<td>6</td>
<td>I</td>
</tr>
<tr>
<td>Iteration 2</td>
<td>On-CE/En1</td>
<td>1,2,3,4,5</td>
<td>1,2</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Off-CE/En2</td>
<td>1,2,3,4,5</td>
<td>1,2</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>KM/En3</td>
<td>3,4,5</td>
<td>1,2,3,4</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>AT/En4</td>
<td>3,4,5</td>
<td>1,2,3,4,5</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>EE/En5</td>
<td>4,5</td>
<td>1,2,3,4,5</td>
<td>4,5</td>
<td>II</td>
</tr>
<tr>
<td>Iteration 3</td>
<td>On-CE/En1</td>
<td>1,2,3</td>
<td>1,2</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Off-CE/En2</td>
<td>1,2,3</td>
<td>1,2</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>KM/En3</td>
<td>3</td>
<td>1,2,3</td>
<td>3</td>
<td>III</td>
</tr>
<tr>
<td></td>
<td>AT/En4</td>
<td>3</td>
<td>1,2,3</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Iteration 4</td>
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<td>1,2</td>
<td>1,2</td>
<td>1,2</td>
<td>IV</td>
</tr>
<tr>
<td></td>
<td>Off-CE/En2</td>
<td>1,2</td>
<td>1,2</td>
<td>1,2</td>
<td></td>
</tr>
</tbody>
</table>

Source: Authors’ compilation from analysis

#### 4.4 DEVELOP DIGRAPH

**Figure 1**

*Digraph*

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---

To construct a digraph (directed graph), it is necessary to assign a level to each node and thereafter establish directed connections between them, guided by the relationships shown in the final reachability matrix. Here, we have assigned the levels to the different elements of our study based on the results from the level partitioning step (Fig. 1).

4.5 MICMAC ANALYSIS

It is a method of dividing all the components into four distinct categories/clusters based on the driving and dependence features that each factor possesses (Jena et al., 2016). Here in our case, we have work efficiency of teachers in the dependent cluster, knowledge management and attitude of teachers in the linkage cluster, online and offline community engagement are on the independent cluster, while the autonomous cluster remains empty (fig. 2).

Figure 2

Matrix of MICMAC Analysis

<table>
<thead>
<tr>
<th></th>
<th>6</th>
<th>5</th>
<th>4</th>
<th>3</th>
<th>2</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>WEoT</td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td>EE</td>
<td>EE</td>
<td>EE</td>
</tr>
<tr>
<td>3</td>
<td></td>
<td>KM</td>
<td>KM</td>
<td>KM</td>
<td>KM</td>
<td>KM</td>
</tr>
<tr>
<td>4</td>
<td>WEoT</td>
<td>WEoT</td>
<td>WEoT</td>
<td>WEoT</td>
<td>WEoT</td>
<td>WEoT</td>
</tr>
<tr>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Authors’ compilation from analysis

4.6 INTERPRETIVE & BINARY MATRIX

The ultimate digraph is transformed into a binary interaction matrix by representing all interactions with a value of '1' in the corresponding cells. Following this, the interpretative matrix with a value of '1' is analyzed alongside its relevant interpretation derived from the 'interpretive logic-knowledge base'. This knowledge base is constructed through the comparison of enabler elements in a pairwise manner. In this context, the with element is individually compared to all other items under consideration. The total number of pairwise comparisons for the 'interpretive logic-knowledge base' is calculated as 9 multiplied by 8 divided by 2, resulting in 36. This calculation is based on the total number of rows, which is determined by multiplying 9 by 8, resulting in 72 as reflected from table 3.
Table 3

Interaction matrix and interactions in binary form

<table>
<thead>
<tr>
<th>Table-3a: Interaction matrix</th>
<th>Table-3b: Interactions in binary form</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enablers</td>
<td>En1</td>
</tr>
<tr>
<td>En1</td>
<td>---</td>
</tr>
<tr>
<td>En2</td>
<td>Y</td>
</tr>
<tr>
<td>En3</td>
<td>N</td>
</tr>
<tr>
<td>En4</td>
<td>N</td>
</tr>
<tr>
<td>En5</td>
<td>N</td>
</tr>
<tr>
<td>En6</td>
<td>N</td>
</tr>
</tbody>
</table>

Y for ‘Yes’; N for ‘No’, En1 to En6 – Enablers1 to 6; 1 replaced ‘Yes’; 0 replaced ‘No’

Source: Authors’ compilation from analysis

4.7 TOTAL INTERPRETIVE STRUCTURAL MODEL

Using the digraph and the interpretative matrix, TISM is constructed for the determined elements. The interpretation of the components included within the boxes stands in for the digraph’s nodes. Total interpretation of structural model (TISM) involves deciphering not only the nodes but also the linkages and is achieved by mapping information from the interpretive matrix onto the faces of the corresponding nodes and edges of the structural model. By establishing a clear hierarchy, the proposed model makes it easy to identify which components are driving the system and which are being driven by it. Therefore, TISM provides a clear explanation (interpretation) of the connections between concepts (Fig. 3).
The TISM approach demonstrates that participation in online and offline communities is complementary to one another, assisting in the incorporation of a positive attitude among educators and contributing to knowledge management procedures. This helps teachers to cope with exhaustion by reducing its negative effects, especially in their hectic schedules, which ultimately results in an increase in their work efficiency. Positive teachers’ attitudes and effective knowledge management practices reduce emotional exhaustion among teachers in the Indian school environment. In addition, the models demonstrate that participation in either offline or online communities has a comparatively less positive impact on the degree to which...
an individual's emotional reserves are depleted. The teachers' attitudes and the management of their knowledge have a healthy synergy that can help improve the overall work efficiency of Indian school teachers and reduce the emotional weariness that they experience in their jobs. Additionally, the one-on-one relations among all the enablers is presented in the annexure-1 (Table 4) with description of each relation and their respective strength and direction.

5 CONCLUSION & IMPLICATIONS

This study presents a thorough establishment of intricate relationships among emotional exhaustion, attitude, knowledge management (KM), community-engagement, and work-efficiency in the Indian school teacher context. Using the innovative total interpretive structural modeling (TISM) approach, the researchers illuminate the complex connections among the above-mentioned elements and their collective & directional relationship with teachers' overall work-efficiency. The findings underscore the pivotal role of community engagement as foundation building-block for bolstering teachers' work-efficiency. Active involvement with relevant communities can be helpful to build positive attitudes towards education systems and to encourage effective KM practices among teachers. In turn, teachers are taking pleasure in their duties, responsibilities, and obligations towards the society that ultimately enhance their work efficiency continuously. So, this study highlights the need for strategic interventions to address emotional exhaustion towards the well-being to ensure sustained performance. Notably, KM emerges as a central theme, influencing attitudes, community engagement, and work efficiency. These insights are valuable for educational institutions, policymakers, and practitioners. By nurturing these relationships, educational institutions can create a conducive environment that fosters teachers' personal and professional growth, ultimately leading to improved learning outcomes and progress in the education sector. While this study offers significant insights, its theoretical nature calls for empirical validation of the identified relationships. In conclusion, this research offers a foundational framework through TISM for understanding and leveraging the connections between emotional exhaustion, attitude, KM, community engagement, and work-efficiency among teachers.

5.1 LIMITATIONS & FUTURE RESEARCH AVENUES

A qualitative research approach is followed to prove the logical connections among emotional exhaustion, attitude, knowledge management, community engagement, and work
efficiency in schoolteachers. But empirical validations may provide better social implications. Furthermore, the study only focuses on Indian schools, but cultural & social differences may impact other countries’ implications that the future researchers would like to address. More expert opinions can be added to substantiate the strength of the relationships among the said factors. Teachers’ well-being outcomes require further examination and intervention options.

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REFERENCES


**ANNEXURE**

**Table 4**

*Interpretive Matrix*

<table>
<thead>
<tr>
<th>Enablers</th>
<th>En1</th>
<th>En2</th>
<th>En3</th>
<th>En4</th>
<th>En5</th>
<th>En6</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>En1</strong></td>
<td>---</td>
<td>Online CE complements Offline CE for positive TA &amp; KM practices.</td>
<td>Online CE has a weak influence in building a platform for KM.</td>
<td>Online CE is helpful to arouse positive TA.</td>
<td>Online CE is weak to reduce negative effects of EE.</td>
<td>Online CE does not have a direct impact on Work efficiency.</td>
</tr>
<tr>
<td><strong>En2</strong></td>
<td>Offline CE complements online CE for positive TA &amp; KM practice.</td>
<td>---</td>
<td>Offline induces continuous KM practice.</td>
<td>Offline CE can build a positive TA.</td>
<td>Offline CE is weak to reduce negative effects of EE.</td>
<td>Offline CE does not have a direct impact on Work efficiency.</td>
</tr>
<tr>
<td><strong>En3</strong></td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td><strong>En4</strong></td>
<td>---</td>
<td>---</td>
<td>TA has a complementary effect on KM to reduce negative effects of EE.</td>
<td>---</td>
<td>TA creates a positive environment to handle EE.</td>
<td>TA has an indirect positive effect on Work efficiency.</td>
</tr>
<tr>
<td><strong>En5</strong></td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td><strong>En6</strong></td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
</tbody>
</table>

Source: Compilation by authors from analysis