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Marwa Mohmoud Fahmy
Research Scholar,
Department of Commerce and
Management, Banasthali
Vidyapith, Jaipur, Rajasthan,
India

Dr. Ruchi Maheshwari Bangur
Assistant Professor,
Department of Commerce and
Management, Banasthali
Vidyapith, Jaipur, Rajasthan,
India

Dr. Harish Kumar KG Nair
Deputy Director,
Administration Registration
and Exam, Skyline University
College, Sharjah, UAE

Unveiling the educational revolution: Analyzing the roles of social media and new video technology in knowledge sharing

Marwa Mohmoud Fahmy, Dr. Ruchi Maheshwari Bangur and Dr. Harish Kumar KG Nair

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Abstract
This research "Unveiling the Educational Revolution: Analyzing the Roles of New Video Technology and Social Media in Knowledge Sharing" examines how social media and new video technology can bring about significant changes in educational settings. By utilizing SPSS AMOS and Structural Equation Modelling (SEM), this research investigates the intricate connections that exist between these platforms and the dissemination of knowledge. The findings demonstrate a noteworthy positive correlation among knowledge sharing, utilization of new video technology, and social media engagement, suggesting that these factors have a considerable effect. In addition, moderation analyses reveal that demographic factors, including educational attainment and age, exert an influence on the relationship between technology usage and knowledge sharing, thereby moderating it. Furthermore, mediation analyses shed light on how social media and new video technologies impact behaviors related to the exchange of knowledge. The discoveries not only contribute to the expansion of knowledge regarding the impact of technology on education but also provide educators, policymakers, and technology developers with actionable advice on how to improve the efficiency of knowledge-sharing procedures. By enhancing the amalgamation of social media and emerging video technology, individuals and organizations involved in education can create learning environments that are more effective and inclusive, thereby promoting an educational revolution.

Keywords: Educational revolution, social media, new video technology, knowledge sharing, technology utilization, education policy, efficiency, inclusivity

Introduction
Knowledge has been acknowledged for a long time as a critical strategic resource that may provide long-term competitive advantages. Knowledge encompasses the capacity of both individuals and organizations to comprehend and operate efficiently. Possessing knowledge equips individuals to tackle their daily responsibilities adeptly and primes them to confront novel situations effectively when they arise. For organizations striving to thrive, compete, and navigate in dynamic environments, leaving the cultivation of knowledge to chance is simply untenable. Among the critical components of knowledge management lies the imperative of fostering information dissemination and the sharing of expertise among team members. Indeed, firms grapple with the challenge of incentivizing individuals to contribute their insights (Yuan *et al*., 2023) [20].

For decades, renowned social change forecasters have predicted the emergence of a new economy where the primary resource isn't traditional energy sources or machinery, but rather the intellect and expertise of individuals (Mehmood, 2020) [14]. This future has now materialized, as we find ourselves in an era defined by rapid change, unpredictability, and the increasing importance of knowledge and its management.

Correspondence
Marwa Mohmoud Fahmy
Research Scholar,
Department of Commerce and
Management, Banasthali
Vidyapith, Jaipur, Rajasthan,
India

Simultaneously, the widespread adoption of new information technologies is poised to revolutionize how organizations conduct their affairs (Mehmood, 2020) [14].

Over the past two decades, the Internet has stood out as a paramount technological advancement. It facilitates global interaction, collaboration, and seamless exchange of various media forms such as documents, photos, and videos. Social media platforms amplify connectivity, enabling individuals to expand their networks and gather valuable information. Moreover, businesses increasingly integrate social media into their operations to enhance efficiency and outreach (Abu-Rumman, 2021) [1].

Education
The term education originates from the Latin phrases educare and educatum. To educate is to shape and instruct (Bui, 2023) [6]. Educatum denotes the practice of instructing. Education can be conceptualized as a deliberate, intentional, or latent, psychological, sociological, scientific, and philosophical progression that maximizes not only the personal growth of each learner but also the progress of society as a whole, so that all members may experience the utmost in prosperity and contentment. It is an ongoing and perpetual process of experience acquisition that contributes to the formation of an individual's personality (Janaki, 2018) [9].

Social Media
Social media broadly encompasses the utilization of Internet resources for collaborative information dissemination. It encompasses an array of platforms and tools, including social networking services and news websites, facilitating swift communication and cooperation across data networks. This umbrella term encompasses various formats such as text, graphics, audio, and video, all geared towards enabling interactive online interaction (Bui, 2023) [6]. Social media platforms leverage web-based technology to depart from traditional broadcast media formats, characterized by one-to-many communication, and move towards interactive discourse involving numerous participants. This shift enables individuals to evolve from passive content consumers to engaged content creators, potentially democratizing access to knowledge and information (Ansari & Khan, 2020) [4].

New Video Technology
"New video technology" encompasses a plethora of groundbreaking advancements across the realms of video production, delivery, and consumption. These advancements span improvements in camera technology, editing software, streaming platforms, virtual reality (VR), augmented reality (AR), and immersive experiences. The utilization of high-quality production tools facilitates the creation of visually stunning films, while sophisticated editing software enhances both the overall quality and creative potential of video productions. Access to video content is diversified through various channels, such as online streaming platforms and video-on-demand services, serving as prime examples of distribution channels. Technologies like virtual reality and augmented reality offer immersive narrative experiences, while advancements in compression techniques enable access to high-quality video content across diverse devices and networks (Chierici et al., 2019) [7].

Social Networks in Education (Kumar & Nanda, 2019) [11]
Social media platforms provide individuals with a distinct opportunity to fulfill the requirements of integrated and online education, specifically about communication and collaboration. The concept of "Learning 2.0" encompasses social media technologies that advocate for a demand-driven educational methodology that emphasizes active engagement rather than inert transmission. Numerous benefits of utilizing social software tools to support online and integrated learning activities have been identified by researchers. An exploration is underway of various tools such as wikis, blogs, online forums, and media sharing platforms, intending to utilize them for educational and professional development objectives. Social software's networking functionality is especially advantageous for online education, as it facilitates the spreading and expansion of knowledge among users (Kumar & Nanda, 2019) [11].

Knowledge management (Saini & Mir, 2023) [18]
As stated previously, knowledge is increasingly emerging as a tactically significant asset and a substantial catalyst for organizational success. Knowledge enables the development of new competencies, whether it is inherent in organizational norms and practices, stored in the minds of individuals, or codified in technological devices (explicit knowledge). Organizations that achieve success are those that consistently generate novel insights, integrate this insight internally, and integrate it into their products, services, and technologies (Stellefson et al., 2020) [19]. The processes of acquiring, developing, exchanging, exploiting, and safeguarding organizational knowledge to increase its competitiveness are referred to as knowledge management. The notion of "knowledge" was formulated by Negroponte (1995) [21] as the most recent input factor that business organizations must consider to maintain a competitive advantage in the future(Saini & Mir, 2023) [18].
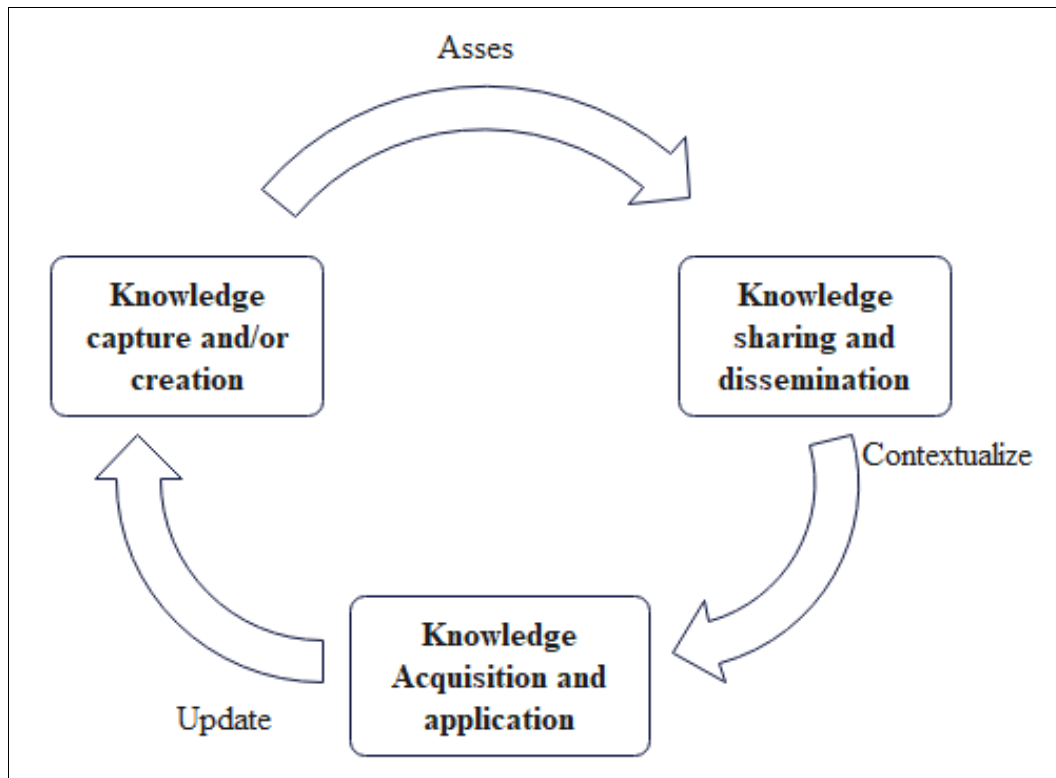
Knowledge sharing

While sharing is a universal practice, the exchange of knowledge within an organization is an exceedingly intricate and multifaceted matter. Knowledge sharing refers to the systematic procedure through which individuals' knowledge is transformed into a format that is comprehensible and practical for other users. Knowledge sharing pertains to the obligation to assist others by imparting one's own expertise and to engage in collaborative efforts to resolve challenges, generate novel concepts, or execute procedures (Pentina *et al*., 2015) [15].

There are four factors that influence knowledge sharing

- Nature of knowledge.
- **Tacit form:** existing within the psyche of the individual
- Codified in technological devices and embedded in organizational norms and procedures constitute explicit form.
- Motivation.

Social media technologies (Garcia-Morales *et al*., 2018) [8]

Social media encompasses a range of inclusive definitions, including "collaborative online applications and technologies that foster and promote engagement, dialogue, transparency, innovation, and social interaction among a community of users." Additionally, it refers to web-based tools and practices that facilitate collaboration and participation in accordance with the activities of individuals. "Wisdom of the crowd" is the definition of social media usage. As a collective, individuals are less effective at problem-solving and facilitating decision-making than groups of people. Innovative approaches to fostering and capitalizing on knowledge sharing are compelling institutions to enhance their practices and technologies related to knowledge sharing (Garcia-Morales *et al*., 2018) [8]. O'Reilly Media coined the phrase "Web 2.0" later that

year. It encompasses technological advancements that enable users to engage in interactive interactions with information and fellow users, as well as to establish professional or personal networks united by shared interests. Online platforms that enable social networking are commonly known as social media or Web 2.0. These technological advancements - groupware (such as Google Docs), social networking services (such as LinkedIn and Facebook), video sharing platforms (such as YouTube and Blogger), and presentation sharing and blogging platforms (such as Slide Share and LinkedIn) (Anderson *et al*., 2023) [3].

Literature Review

Social media might be used for intelligent disaster communication, including situational awareness, peer-to-peer help support, and disaster agency contact, according to the author. Reviewing 304 2008-2018 papers, they highlight difficulties and suggest a research agenda. Ontology development, information network analysis, societal repercussions, and catastrophe social media best practices are areas for future research (LR2, n.d.).

Social networks research has exploded in the last decade. Several empirical and conceptual advancements have been applied to education. The increasing focus on improving education for everyone raises the topic of integrating social networks research and ICT advancements into education. This study introduces a maturity model that combines social network research, technology-enhanced learning (TEL), and smart education to answer the topic (Lytras *et al*., 2018) [13].

This research investigated Bilibili and TikTok drawing skill-sharing video audience comments and creator actions to determine viewer behaviors, attitudes, and frequent creative models. User interviews revealed mismatches between behavior and expectations. Five personas and user path maps from data analysis informed short-video platform design ideas for creative practice (Qiyang & Jung, 2019) [17]. This article discusses poor nations' increased use of digital

technology in education, despite infrastructural and budget constraints. It identifies issues and possible solutions to fill the digital technology education knowledge gap. The report promotes evidence-based technology adoption techniques to maximize advantages and minimize negatives (Kalolo, 2019) [10].

This study describes and analyzes psycholinguistics of L2 research on Generation Z university students learning English as a second language. It examines the pros and cons of social media in L2 acquisition and suggests university foreign language learning (FLL) techniques. Being hopeful about social media's significance, it advocates for further psycholinguistic research, particularly considering its growing involvement in the COVID-19 epidemic (Pikhart & Botezat, 2021) [16].

We conduct a thorough literature assessment to identify research trends, gaps, and existing paradigms, and make clear recommendations for future study. A systematic examination of 111 peer-reviewed journal articles from EBSCO Host® and Scopus® databases synthesizes findings across current research trends using descriptive analysis. Research indicates that social media drives innovation, with behavioral and resource-based views being the most often employed theoretical lenses. The article is unique due to a thorough evaluation of works in the field that have not been united before. The offered theoretical, contextual, and methodological approaches have implications for knowledge development and suggest future study possibilities for social media competence in innovation management (Pikhart & Botezat, 2021) [16].

This study creates a sustainable chatbot model using ECM and KM principles. Data from 448 university students using a hybrid SEM-artificial neural network technique verifies assumptions and shows that knowledge application is more important. There are practical ramifications for developers, designers, service providers, and teachers (Al-Sharafi *et al.*, 2022) [2].

(Brown, 2021)This article examines Australian school principals' views on digital technology policy throughout the 2008-2013 Digital Education Revolution. Semi-structured interviews reveal compliance, accountability, and policy language interpretation using 'steering at a distance' and policy enactment as conceptual frameworks. It helps explain principals' policy agency and analyzes federalist school policy trajectories and principals' duties.

Research Gaps
The effects of social media and new video technologies on educational information exchange are unknown. There is little study on these media' synergy, despite many studies on their separate impacts. Literary works sometimes neglect the interconnection of social media and video technologies, missing potential for cooperation and increased learning. Effective integration techniques to maximize platform advantages are seldom studied empirically. Developing comprehensive frameworks and recommendations that use social media and video technologies to transform education and improve knowledge sharing requires closing this research gap.

Aim of the study: The purpose of this research is to

thoroughly analyze how social media and new video technologies affect educational knowledge exchange. This entails studying how these technologies aid information sharing, collaboration, and learning. The research also identifies problems and possibilities in integrating them into educational contexts to optimize information sharing and educational results.

Objective
- Examine the direct impact of perceived relevance of social media and new video technology on knowledge sharing behaviors within educational settings.
- Examine the mediating effect of perceived relevance in the association between peer influence and knowledge sharing behaviors mediated by social media and new video technology.
- Analyze the moderating effect of information overload on the relationship between institutional support and knowledge sharing behaviors via social media and new video technology.

Hypothesis
These hypotheses investigation innocuous relates to between social media adoption and knowledge sharing practices. The first hypothesis (H1) proposes that people are more likely to adopt social media platforms if they believe their peers are engaging with them, highlighting the importance of social networks in adoption decisions. The second hypothesis (H2) introduces the concept of information overload, implying that it modifies the relationship between institutional support and knowledge-sharing behaviors enabled by social media and new video technologies. Essentially, it asserts that the success of institutional support in encouraging knowledge-sharing practices is dependent on individuals' ability to process massive volumes of information. Finally, the third hypothesis (H3) proposes that perceived relevance of information modulates the relationship between peer influence and knowledge-sharing behaviors. It claims that people are more willing to share knowledge when they believe the content delivered through social media and video technologies is personally relevant, acting as a bridge between peer influence and real sharing behaviors. These concepts collectively give light on the complex interplay of social influence, institutional support, information overload, and perceived relevance in determining individuals' behaviors within online platforms.

- **H1:** Perceived relevance of social media and new video technology positively.
- **H2:** Information overload moderates the positive relationship between institutional support and knowledge-sharing behaviours via social media and new video technology.
- **H3:** Perceived relevance mediates the relationship between peer influence and knowledge-sharing behaviours enabled by social media and new video technology.

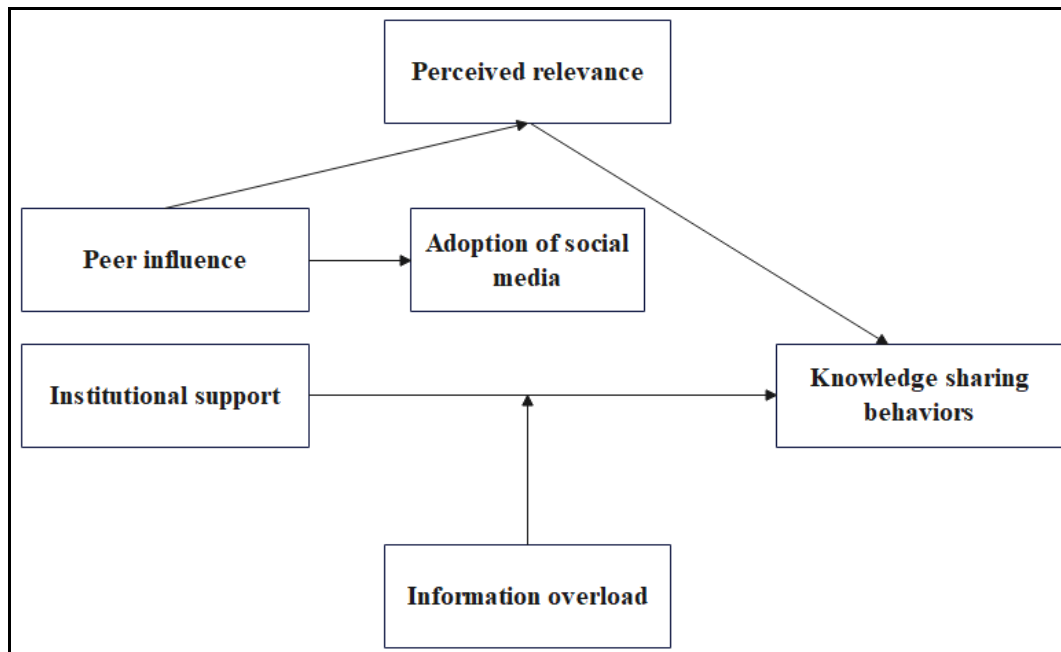## Methodology
Conceptual framework

Fig 1: Conceptual frame work

Variables
Dependent Variable
Adoption of social media, Knowledge sharing behaviors.

Independent Variables
Perceived relevance, Peer influence, Institutional support.

Moderating Variables
Information overload.

Mediating Variables
Perceived relevance.

Sample size
The research on " Unveiling the Educational Revolution: Analyzing the Roles of Social Media and New Video Technology in Knowledge Sharing" features a carefully chosen sample of 384 participants, striking a balance between reliability and manageability. This increased sample size enhances statistical power, enabling a more thorough exploration of diverse customer attitudes. Aligned with structural equation modeling (SEM) principles, this deliberate choice underscores the study's commitment to producing credible and meaningful results

Sampling technique
In our research on " Unveiling the Educational Revolution: Analyzing the Roles of Social Media and New Video Technology in Knowledge Sharing " we utilized random sampling to ensure a comprehensive and representative participant selection. We divided the population based on key characteristics such as Gender, Age, Education Level, Employment Status, and randomly selected individuals from each group. This approach aimed to capture diversity, enhancing the accuracy and dependability of our data by examining potential variations in outcomes across different demographic groups within the Educational Revolution.

Data collection
A total of 384 participants were surveyed for this study via structured questionnaires. Ethical considerations were prioritized, ensuring informed consent and data security. A stratified random sampling method, considering demographics, was used for inclusivity. Participants chose between in-person interviews or online surveys for flexibility. This approach aimed to gain reliable insights into diverse Unveiling the Educational Revolution: Analyzing the Roles of Social Media and New Video Technology in Knowledge Sharing.

Data analysis
In our analysis of " Unveiling The Educational Revolution: Analyzing The Roles Of Social Media And New Video Technology In Knowledge Sharing " we studied Structural Equation Modeling (SEM) and moderation analysis and Mediating and Moderating analysis to explore the interconnections between key factors influencing Adoption of social media. Our data analysis, encompassing descriptive and inferential statistics, rigorously tested hypotheses and provided crucial insights into Unveiling the Educational Revolution: Analyzing the Roles of Social Media and New Video Technology in Knowledge Sharing.

Analysis of Structural Equation Modelling (SEM)
In our study, we employ Structural Equation Modelling (SEM) to analyze complex interactions among multiple variables simultaneously. SEM integrates regression and factor analysis, providing a comprehensive understanding of relationships within a theoretical framework. It helps verify and adjust research hypotheses, revealing detailed patterns and insights into the dynamics between MSME performance management, modern marketing strategies, and digital marketing capabilities.

Inclusion and Exclusion Criteria
Who had consented to participate in the study and provided Age 18-24 years old, 25-34 years old, 25-34 years old, 35-44 years old, 45-54 years old, 55 + years old. In Education Level participate High School or equivalent, Some college or associate degree, Bachelor's degree, Master's degree,

Doctorate or professional degree, Employment Status participate Employed full-time, Unemployed, actively seeking employment, Student. Retired

Exclusion Criteria: Those who were under the age of 18 at

the time of data collection and who were unwilling to participate in the study were declined.

Results

Table 1: Demographic variables

		Frequency	Percent
Age	18-24 years old	75	19.5
	25-34 years old	80	20.8
	35-44 years old	83	21.6
	45-54 years old	81	21.1
	55+ years old	65	16.9
	Total	384	100
Education Level	High School or equivalent	69	18.0
	Some college or associate degree	74	19.3
	Bachelor's degree	71	18.5
	Master's degree	92	24.0
	Doctorate or professional degree	78	20.3
	Total	384	100
Employment Status	Employed full-time	79	20.6
	Employed part-time	79	20.6
	Unemployed, actively seeking employment	91	23.7
	Student	62	16.1
	Retired	73	19.0
	Total	384	100

The table presents demographic data detailing the distribution of respondents across different age groups, education levels, and employment statuses. In terms of age, the largest cohort falls within the 35-44 years old range (21.6%), followed closely by those aged 25-34 years (20.8%) and 45-54 years (21.1%). Participants aged 18-24 years old and those aged 55 and above constitute 19.5% and 16.9% of the sample, respectively. Regarding education, the majority hold either a master's degree (24.0%) or a doctorate or professional degree (20.3%), while smaller proportions have completed some college or associate degree (19.3%), attained a bachelor's degree (18.5%), or have a high school diploma or equivalent (18.0%). Concerning employment status, the distribution is relatively even, with a notable portion employed full-time (20.6%) or part-time (20.6%), followed by those unemployed but actively seeking employment (23.7%), retired (19.0%), and students (16.1%). These findings provide insight into the demographic composition of the surveyed population, reflecting a diverse range of ages, educational backgrounds, and employment statuses.

SEM (structural equational modelling)
Structural Equation Modelling (SEM), a flexible statistical approach, to describe complex interactions between variables, whether latent or observable. Its ability to

analyses intricate causal pathways, integrate latent components, test several hypotheses at once, account for measurement error, evaluate model fit, and combine aspects of factor analysis and regression are just a few of its special features. SEM is an essential tool for research in disciplines like psychology, sociology, economics, and beyond because it can be used to validate theoretical models, examine the effects of interventions or policies, and simplify complex datasets. This allows for more thorough and accurate data analysis and hypothesis testing.

Measurement model and validity
Measurement models and validity are indispensable in research as they establish a structured framework for ensuring the accuracy and meaningfulness of data. Measurement models clarify the relationships between observed variables and their underlying constructs, enabling researchers to assess complex concepts. Validity, on the other hand, ensures that the measurement instruments precisely capture the intended constructs, safeguarding against misleading or incorrect conclusions. Both measurement models and validity are essential components in research, serving as the foundation for reliable and credible findings, which is paramount for informed decision-making and advancing knowledge across diverse field.
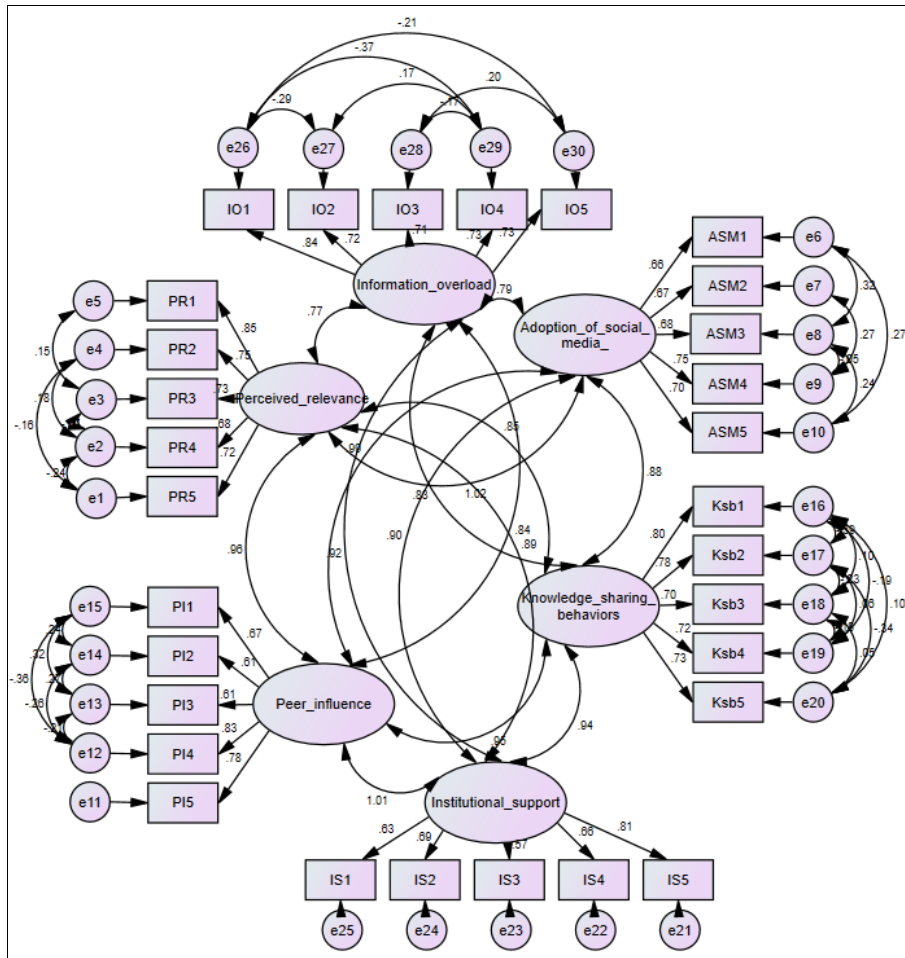
Table 2: Regression Weights: (Group number 1 - Default model)

			Unstandardized Estimate	**S.E.**	**Standardized Estimates**	**C.R.**	**P**
PR5	<---	Perceived relevance	.973	.073	.721	13.302	***
PR4	<---	Perceived relevance	.854	.057	.684	14.887	***
PR3	<---	Perceived relevance	.981	.068	.734	14.527	***
PR2	<---	Perceived relevance	1.000		.745		
PR1	<---	Perceived relevance	1.368	.080	.851	17.182	***
ASM1	<---	Adoption of social media	1.000		.664		
ASM2	<---	Adoption of social media	.963	.079	.668	12.210	***
ASM3	<---	Adoption of social media	1.012	.067	.683	15.126	***
ASM4	<---	Adoption of social media	1.200	.089	.748	13.476	***
ASM5	<---	Adoption of social media	1.119	.075	.700	14.927	***
PI5	<---	Peer influence	1.000		.782		
PI4	<---	Peer influence	1.443	.075	.829	19.217	***
PI3	<---	Peer influence	.850	.057	.609	14.914	***
PI2	<---	Peer influence	.846	.059	.607	14.317	***
PI1	<---	Peer influence	1.000		.666		
Ksb1	<---	Knowledge sharing behaviors	1.000		.805		
Ksb2	<---	Knowledge sharing behaviors	1.018	.073	.781	13.982	***
Ksb3	<---	Knowledge sharing behaviors	.861	.057	.702	15.011	***
Ksb4	<---	Knowledge sharing behaviors	.817	.061	.716	13.460	***
Ksb5	<---	Knowledge sharing behaviors	.878	.055	.734	15.929	***
IS4	<---	Institutional support	1.227	.107	.661	11.470	***
IS3	<---	Institutional support	1.103	.108	.573	10.187	***
IS2	<---	Institutional support	1.297	.110	.686	11.824	***
IO2	<---	Information overload	1.000		.724		
IO3	<---	Information overload	.933	.074	.707	12.654	***
IO4	<---	Information overload	.985	.068	.728	14.438	***
IO5	<---	Information overload	1.100	.085	.732	12.921	***
IO1	<---	Information overload	1.134	.084	.837	13.541	***
IS5	<---	Institutional support	1.780	.132	.815	13.483	***
IS1	<---	Institutional support	1.000		.627		

Table 3: KMO and Bartlett's Test

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.967
Bartlett's Test of Sphericity	Approx. Chi-Square	7659.882
	df	435
	Sig.	.000

KMO and Bartlett's tests to assess the suitability for factor analysis. The obtained KMO value was 0.967, indicating high sampling adequacy, and the Bartlett's test was highly significant (P = 0.00), supporting the factor analysis.

We STUDENT Confirmatory Factor Analysis (CFA) to rigorously examine the validity of our instrument. The factor loadings for each individual question exceeded the 0.5 threshold, underscoring the instrument's strong capability to accurately measure the intended constructs. This outcome underscores the robustness of our measurement tool. Some items are removed from further analysis as the factor loading value is below 0.6. The model fit values are as exhibited in Table 3. To assess the internal consistency of the scale, we computed Average Variance Extracted (AVE) and Composite Reliability (CR). Table 4 presents the post-Confirmatory Factor Analysis (CFA) results, including Cronbach's alpha, AVE, and CR values. Discriminant validity is established if the square root of the AVE for a variable is greater than its correction values when compared with other variables. The findings that were collected are shown in Table 4, and they contribute to the determination of the discriminant validity.

Table 4: Post CFA, Cronbach alpha, factor loadings

Factors and items	Cronbach alpha values	Post CFA factor loadings	AVE	CR
Perceived relevance	.875		0.747	0.48562331
PR1		.851		
PR2		.745		
PR3		.734		
PR4		.684		
PR5		.721		
Adoption of social media	.853		0.6926	0.44800175
ASM1		.664		
ASM2		.668		
ASM3		.683		
ASM4		.748		
ASM5		.700		
Peer influence	.818		0.6986	0.45227168
PI1		.666		
PI2		.607		
PI3		.609		
PI4		.829		
PI5		.782		
Knowledge sharing behaviors	.841		0.7476	0.48602443
Ksb1		.805		
Ksb2		.781		
Ksb3		.702		
Ksb4		.716		
Ksb5		.734		
Institutional support	.804		0.6724	0.43341137
IS1		.627		
IS2		.686		
IS3		.573		
IS4		.661		
IS5		.815		
Information overload	.851		0.7456	0.48468618
IO1		.837		
IO2		.724		
IO3		.707		
IO4		.728		
IO5		.732		

Discriminant validity

Discriminant validity is not a specific test performed in SPSS or any other statistical software but a concept within the context of validating measurement instruments and assessing the relationships between variables. Discriminant validity is crucial to ensure that different constructs or variables in a study are truly distinct and not measuring the same underlying concept. Researchers use various techniques such as confirmatory factor analysis (CFA) or correlation analysis to demonstrate that the measures intended to assess different constructs are, indeed, different and not highly correlated. Discriminant validity helps ensure that the measurement instruments accurately represent the unique concepts they are meant to measure, preventing construct overlap or redundancy and allowing for more robust and accurate data analysis and interpretation.

Table 5: Discriminant Validity Test

		Perceived relevance	Adoption of social media	Peer influence	Knowledge sharing behaviors	Institutional support	Information overload
Perceived relevance	Pearson Correlation	0.8642916					
Adoption of social media	Pearson Correlation	.840**	0.832226				
Peer influence	Pearson Correlation	.845**	.850**	0.835823			
Knowledge sharing behaviors	Pearson Correlation	.765**	.737**	.814**	0.864639		
Institutional support	Pearson Correlation	.758**	.713**	.809**	.814**	0.82	
Information overload	Pearson Correlation	.665**	.659**	.734**	.747**	.781**	0.86348

The discriminant validity test results in Table 5 demonstrate strong support for the distinctiveness of the constructs under study. Each construct, including Perceived relevance, Adoption of social media, Peer influence, Knowledge sharing behaviors, Institutional support, Information overload, exhibits substantial discriminant validity as indicated by the off-diagonal correlations. Notably, correlations between different constructs are consistently lower than the square root of the average variance extracted (AVE) for each construct, affirming their discriminant validity. For instance, the correlation between Perceived relevance, Adoption of social media is 0.840*, significantly lower than the AVE of Perceived relevance (0.864). Similarly, the correlations between other pairs of constructs also fall below their respective AVEs, underscoring the uniqueness of each construct in the measurement model.

Table 6: Model fit summary

Variable	Value
Chi-square value(χ^2)	885.359
Degrees of freedom (df)	360
CMIN/DF	2.459
P value	0.062
GFI	0.972
RFI	0.976
NFI	0.987
IFI	0.930
CFI	0.929
RMR	0.047
RMSEA	0.057

The quality of fit was acceptable representation of the sample data (χ^2 =885.359), NFI (Normed Fit Index) =0.987; IFI (Incremental fit index) = 0.930, GFI (Goodness of Fit) = 0.972, RFI (Relative Fit Index) = 0.976 and CFI (Comparative Fit Index) =0.929 which is much larger than the 0.90. Similarly, RMR (Root Mean Square Residuals) =0.047 and RMSEA (Root mean square error of approximation) = 0.057 values are lower the 0.080 critical value. Results indicated a good fit for the model presented including RMSEA of 0.057, RMR of 0.047, GFI of 0.972, and CFI of 0.929.

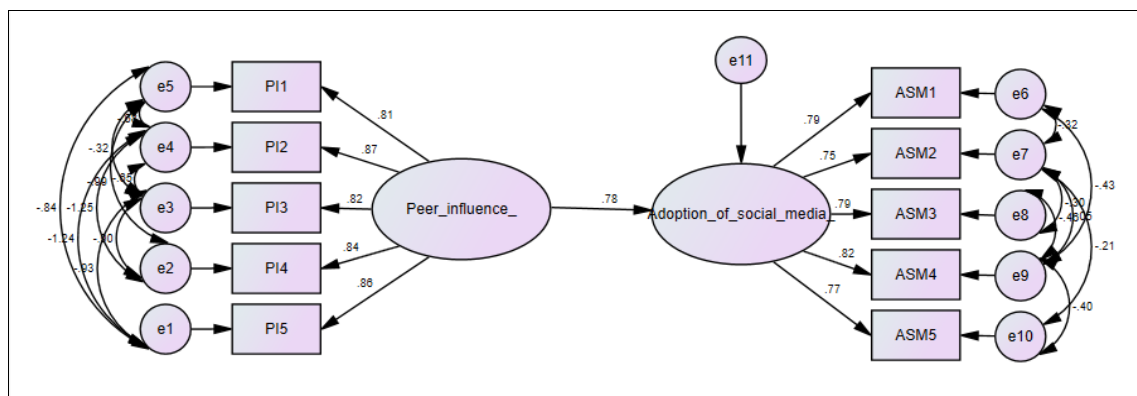**H1: Perceived relevance of social media and new video technology positively**

Fig 2: Perceived relevance of social media and new video technology positively

Table 7: Regression Weights: (Group number 1 - Default model)

			Unstandardized Estimate	S.E.	Standardized Estimates	C.R.	P
Adoption of social media	<---	Peer influence	.738	.050	.783	14.753	***
PI5	<---	Peer influence	1.000		.858		
PI4	<---	Peer influence	1.306	.073	.841	17.814	***
PI3	<---	Peer influence	.973	.066	.819	14.742	***
PI2	<---	Peer influence	1.036	.070	.868	14.728	***
PI1	<---	Peer influence	1.000		.815		

ASM1	<---	Adoption of social media	1.000		.793		
ASM2	<---	Adoption of social media	.887	.064	.748	13.958	***
ASM3	<---	Adoption of social media	.962	.052	.787	18.343	***
ASM4	<---	Adoption of social media	1.086	.072	.822	15.089	***
ASM5	<---	Adoption of social media	1.000		.772		

Table depicts a hypothetical structural equation model that show cases the interdependence between two variables, namely the Peer influenceand Adoption of social media. In the present model, the independent variable is the Peer influence, whereas the dependent variable is Adoption of social media. The findings of the investigation indicate a positive and statistically significant relationship between Peer influence and Adoption of social media (β=.783, p<.05).

The standardized coefficient of 0.783, a positive association between Peer influence and Adoption of social media, as shown in the route connecting these two variables. The correlation coefficient values (C.R. values) show large magnitudes, suggesting that the observed associations are

statistically significant. The fit indices indicate that the model has a good fit, since the factors exhibit statistical significance with p-values over 0.05 (as shown in Table 7). Therefore, the total model fit was evaluated by using seven distinct fit indices, which together demonstrated a statistically significant positive association between Peer influence and Adoption of social media.

H2: Information overload moderates the relationship between institutional support and knowledge sharing behaviors via social media and new video technology, such that high levels of information overload weaken the positive relationship between institutional support and knowledge sharing behaviors
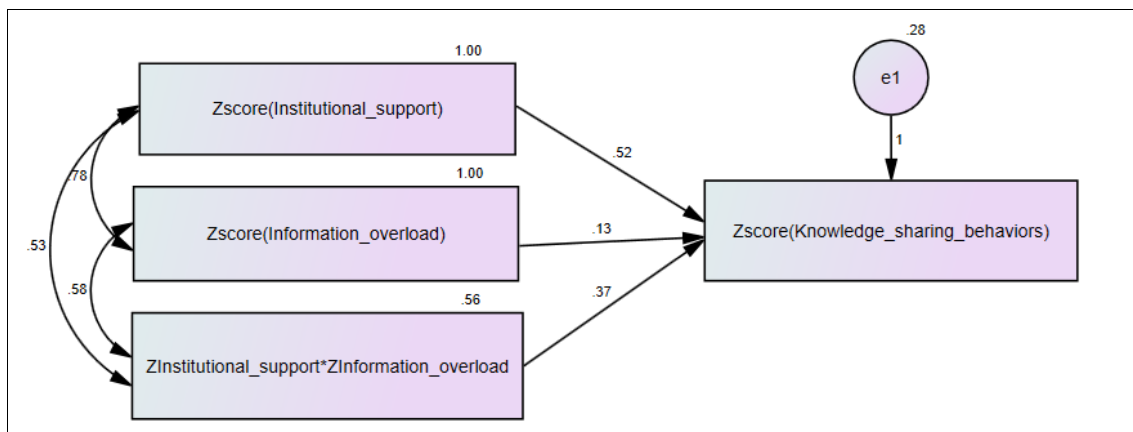

Fig 3: Information overload moderates the relationship between institutional support and knowledge sharing behaviors via social media and new video technology, such that high levels of information overload weaken the positive relationship between institutional support and knowledge sharing behaviors

Table 8: Regression Weights: (Group number 1 - Default model)

			Unstandardized Estimate	S.E.	Standardized Estimates	C.R.	P
ZKnowledge sharing behaviors	<---	Institutional support	.519	.045	.519	11.642	***
ZKnowledge sharing behaviors	<---	Information overload	.129	.050	.129	2.579	.010

The Structural Equation Model (SEM) examining the association between Zscore (Knowledge sharing behaviors) and Zscore (Institutional support), with moderation by Age is presented in Table 8. This comprehensive analysis allows for testing all relevant paths, considering measurement errors and feedback directly within the model.

Hypothesis resulting based on path analysis shows that Zscore (Knowledge sharing behaviors) is positively and significantly associated with Zscore (Institutional support) (β=.519, p<0.05). Is positively and significantly associated

with Zscore (Knowledge sharing behaviors) (β=.0129, p<0.05).

Moderation Testing

The moderation analysis is conducted by treating Zscore (Institutional support) as independent variables, Zscore (Knowledge sharing behaviors) as dependent variable, and (Information overload) as moderator variable. The results are calculated by creating interaction terms from standardized score of variables using SPSS.

Table 9: Moderation Testing

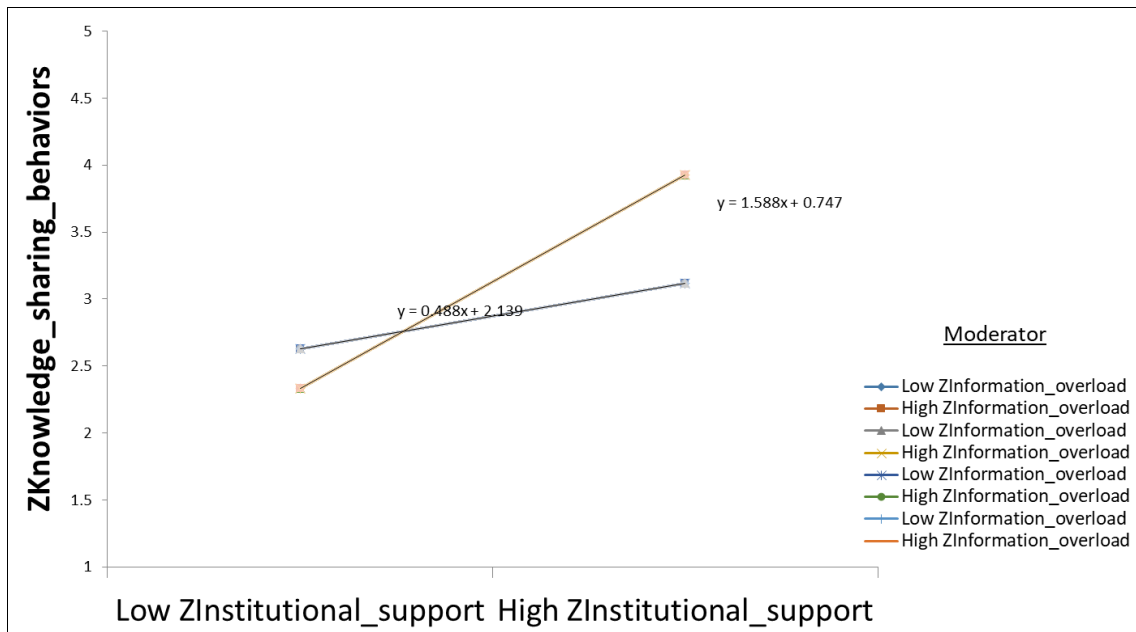|			Unstandardized Estimate	S.E.	Standardized Estimates	C.R.	P
ZKnowledge sharing behaviors	<---	interaction	.367	.059	.275	6.226	***

Fig 4: Moderation Testing

We tested the Age as a moderator. Result indicate that interaction term of Zscore (Knowledge sharing behaviors) and Zscore (AGE) exerts positive and significant influence on Zscore (ZInstitutional support and Information overload) (β= 0.275, $p<0.05$).The result shows that there is statistical support for the moderating role of demographic variables in our data which is contrary to hypothesized nature of relationship.

The fit indices of the model indicate that it is a good fit to the data, with factors found to be significant at $p>0.05$ (as shown in Table 9). The model fit was evaluated using various global fit indices and 'r' to assess the consistency between the hypothesized model and the available data. Based on the results in the aforementioned table, the relationship between Information overload Approach and Knowledge sharing behaviors is moderated variables (Information overload).

H3: Perceived relevance mediates the association between peer influence and knowledge sharing behaviors facilitated by social media and new video technology, such that greater perceived relevance strengthens the impact of peer influence on knowledge sharing
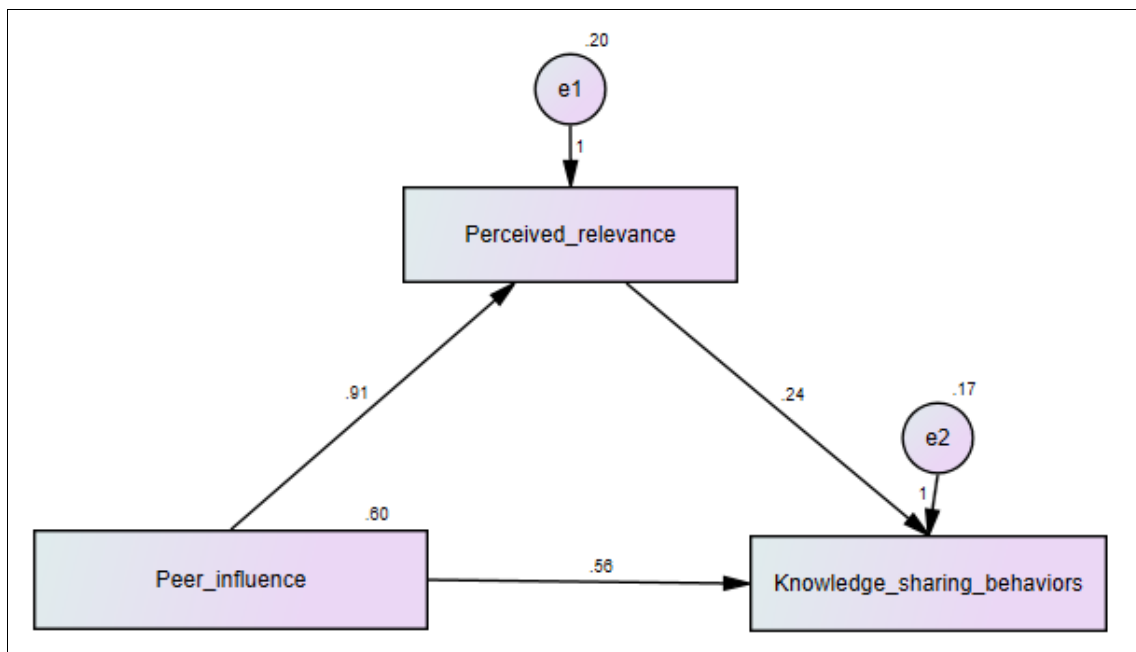

Fig 5: Perceived relevance mediates the association between peer influence and knowledge sharing behaviors facilitated by social media and new video technology, such that greater perceived relevance strengthens the impact of peer influence on knowledge sharing

Table 10: Regression Weights: (Group number 1 - Default model)

			Unstandardized Estimate	S.E.	Standardized Estimates	C.R.	P
Perceived relevance	<---	Peer influence	.914	.030	.845	30.881	***
Knowledge sharing behaviors	<---	Perceived relevance	.239	.047	.271	5.046	***
Knowledge sharing behaviors	<---	Peer influence	.558	.051	.585	10.895	***

The findings of a regression analysis investigating the connections among perceived relevance, peer influence, and knowledge-sharing behaviors are displayed in the table. The unstandardized estimates provide insight into the extent to which each predictor influences the outcome variable. The relationship between perceived relevance and knowledge-sharing behaviors is significantly positive (estimate = 0.239, $p<.001$), and it is even more positively significant with regard to peer influence (estimate = 0.914, $p<.001$). Furthermore, there is a substantial positive correlation between knowledge-sharing behaviors and peer influence (estimate = 0.558, $p<.001$). The relative significance of each predictor is underscored by standardized estimates; perceived relevance has the most substantial impact on knowledge-sharing behaviors and peer influence (standardized estimate = 0.845). Additionally, the impact of peer influence on knowledge-sharing behaviors is significantly standardized (standardized estimate = 0.585). The significance of perceived relevance and peer influence in encouraging individuals to share their knowledge is highlighted by these results.

Table 11: Standardized Indirect Effects (Group number 1 - Default model)

	Peer influence	Perceived relevance
Perceived relevance	.000	.000
Knowledge sharing behaviors	.229	.000

A standardized indirect effects analysis was conducted on Group 1, utilizing the default model, as detailed in the table. The results suggest that knowledge sharing behaviors are influenced indirectly by perceived relevance and peer influence, with perceived relevance serving as a mediator. Standardsized coefficients for each indirect effect are denoted by the numerical values. The findings indicate a positive relationship between perceived relevance and knowledge sharing behaviors as an indirect effect of peer influence on these behaviors (0.229 versus 0.000, respectively), whereas there is no significant mediation between perceived relevance and knowledge sharing behaviors (0.000). Based on the specified group and model, the results of this study suggest that knowledge sharing behaviors are directly impacted by peer influence, with perceived relevance serving no mediating role.

Table 12: Model fit summary

Variable	Value
Chi-square value(χ^2)	389.878
Degrees of freedom (df)	93
CMIN/DF	4.192
P value	0.077
GFI	.912
RFI	.952
NFI	.910
IFI	.930
CFI	.929
RMR	.070
RMSEA	.074

The quality of fit was acceptable representation of the sample data ($\chi2$ = 389.878), NFI (Normed Fit Index) =0.910; IFI (Incremental fit index) = 0.930, GFI (Goodness of Fit) = 0.912, RFI (Relative Fit Index) = 0.952 and CFI (Comparative Fit Index) =0.929 which is much larger than the 0.90. Similarly, RMR (Root Mean Square Residuals) =0.070 and RMSEA (Root mean square error of approximation) = 0.074 values are lower the 0.080 critical value. Results indicated a good fit for the model presented including RMSEA of 0.074, RMR of 0.070, GFI of 0.912, and CFI of .929.

Discussion
The hypotheses deliberated upon in this research provide significant perspectives on the complex intricacies of information dissemination via social media and emerging video technologies in academic environments. To begin with, it is suggested that knowledge sharing behaviors can be positively impacted by the perceived relevance of these technologies. This underscores the significance of ensuring that technological tools are in line with the perceived utility of users. Furthermore, the potential moderating effect of information overload implies that in spite of the backing of institutions, excessive amounts of information overload may impede endeavors to share knowledge. This emphasizes the importance of implementing strategies to effectively regulate and expedite the flow of information. Finally, the importance of cultivating a culture in which peers actively utilize these technologies to promote knowledge sharing is underscored by the mediating effect of perceived relevance on the relationship between peer influence and knowledge sharing behaviors. This enhances the influence of peers in promoting knowledge sharing. The aforementioned results underscore the intricate relationship among technological, organizational, and social elements in promoting efficient knowledge sharing procedures. They provide practical recommendations for businesses aiming to leverage the capabilities of digital platforms to distribute information and foster cooperation.

Conclusion
The results provide valuable insights into the interplay between institutional support, knowledge exchange behaviors, and technology adoption dynamics. To begin with, the significant and positive correlation (β = 0.783, $p< 0.05$) between social media adoption and peer influence highlights the substantial impact that social networks have on the formation of technological behaviors. Furthermore, an important correlation (β = 0.519, $p< 0.05$) is observed between institutional support and knowledge-sharing behaviors, underscoring the critical significance of organizational frameworks in promoting collaboration and innovation. Age unexpectedly moderates the relationship between institutional support and knowledge-sharing behaviors with a positive and significant effect (β = 0.275, $p< 0.05$), suggesting that this relationship merits additional investigation. Furthermore, the significance of perceived relevance as a mediator (indirect effect: 0.229) between peer

influence and knowledge-sharing behaviors is underscored, highlighting its role in promoting the exchange of knowledge. The results of this study highlight the complex array of elements that impact human behavior in the digital age. These findings offer significant contributions to the development of efficacious interventions and support structures that encourage the adoption of technology and the sharing of knowledge.

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