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SOCIAL MEDIA AND SUSTAINABLE EDUCATION: AN ANALYSIS OF THE MEDIATING ROLE AND COMPETENCE OF TEACHERS

Purpose. This study aims to investigate how social media affects teachers' attitudes towards this medium, their knowledge and ultimately sustainable education.

Methodology. The Theory of Reasoned Action is presumed to provide theoretical underpinning. Based on TRA and extant literature, our research structure began. We made use of a stratified random sampling technique to obtain and analyze quantitative data by using 451 valid responses from university teaching staff. We made use of PLS-SEM as a technique for multivariate analysis.

Findings. The findings indicate that using social media has a positive influence on teachers' attitudes toward social media, which in turn enhances their knowledge. Additionally, both teachers' attitudes toward social media and their knowledge contribute positively to sustainable education.

Originality. Our study found that teachers' knowledge development and sustainability of education are supported by social media, which fosters positive attitudes towards the medium.

Practical value. The findings of this research have both academic and practical implications, which serve as the foundation for promoting sustainable education.

Keywords: *social media, sustainable education, teachers' knowledge, PLS-SEM, SmartPLS 4*

Introduction. Nowadays, every element of our lives has been profoundly impacted by social media and social networking, which has improved knowledge sharing and information flow [1, 2]. Nevertheless, there are many difficulties that people must face as a result of social media's continuous expansion. A group of computer-mediated technologies known as "social media" are used to develop and disseminate concepts, knowledge, professional interests, information, and other forms of lexes through social networks and online communities [3, 4]. Users of social media frequently use the Internet or other web-based technologies on laptops and desktop computers to access social media services, or they install apps to enable social media and social networking on mobile devices, such as smartphones or tablets [5]. According to reports, social media has altered both individual and organizational workflows, caused a paradigm shift in the field of education, and modified how students and teachers are taught and learn [6].

In recent years, sustainable education has become a hot topic in various publications related to science education [7]. Over the last decade, sustainable education has received increased attention, with calls for increased attention to these areas as well as improved curriculum and teaching quality [8].

Furthermore, social networking has significantly improved educational standards. Sustainable education can enhance teaching methods and teaching instruments by utilizing contemporary information and communication technology while upholding global academic standards [9]. These technologies are utilized to advance teaching and learning and offer chances for customizing the educational experience.

There is evidence that social media can help promote efficient teaching and long-term learning, even though students do not always use social media effectively [6]. As a result, it is necessary to evaluate teachers' attitudes and roles towards using social media in the context of sustainable education. There are three reasons for this: first, in the educational system, teachers are crucial [10]. Teachers' attitudes and knowledge are crucial elements of educational assessment and can offer thorough data and a high-level under-standing of what is happening in education [11]. However, there are few existing studies on the attitude and effect of teachers' use of social media in the context of sustainable education.

In order to better understand how teachers' attitude, teachers' knowledge, and education for sustainability are affected by social media, current literature on the topic is examined in this study. First, studies on using social media for sustainable education have been revisited. Second, analyzing how teachers use social media in education for sustainability is crucial. Thus, the objectives of this study are to: 1) determine the influence of

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social media on teachers' attitudes; 2) investigate the role of such media for teaching in knowledge creation; 3) evaluate the impact of these activities on sustainable education. Additionally, the authors conducted a survey of 500 teachers in China regarding social media use, attitudes towards social media use, knowledge gained from social media, and how it affects various aspects of sustainable education.

Following is the structure of the study: first, a review of the available literature is done before our study methodology is examined. The data and data analysis are then explained, and our findings are then thoroughly discussed. Finally, we make our conclusions before wrapping up the paper.

Literature review. Using the Theory of Reasoned Action (TRA) allows us to look at how individuals' attitudes and subjective norms affect their behavior in social media. And the theory has been frequently applied to forecast network usage attitudes and the capacity to exchange information on social media [12]. Furthermore, TRA is relevant when investigating a person's attitude [13]. Therefore, this study investigates the impact of social media use on teachers' attitudes, which in turn affects sustainable education. The study sees TRA as teachers' increasing use of social media and their attitudes towards it which has implications for teachers' existing knowledge and sustainable education [14].

Social media use and teachers' attitude. The use of specific apps, guidelines or principles in designing and implementing social media systems can be explained by individual attitudes. And the impact of personal attitudes towards social media on learning is very striking [15, 16]. Roohani, et al. [16] investigated the role of social media in the teaching of Iranian English, and how this influenced their attitudes towards using various social networking sites. They surveyed some English teaching teachers through the recently popular social media (Telegram, WhatsApp) to determine their attitudes and opinions regarding the use of social media for teaching. Social media's educational potential in English instruction was strongly endorsed by the majority of respondents. Moreover, according to Limaye, et al. [17], during COVID-19, there was an increase in the use of social media by participants, and this effect is said to have been positive for educators' attitudes towards using social networking sites as part of online learning. A quantitative survey was conducted, involving 252 teachers from both public and private schools [14]. This re-search employed PLS-SEM to explore how the rise in social media usage during the COVID-19 pandemic influenced teachers' views on the acceptance of online learning. The research discovered that teachers are inclined to view social media as a positive force due to its continuous evolution (Fig. 1). Consequently, we propose the subsequent hypothesis:

Hypothesis 1 (H1). The teachers' perspective on social media is based on its use.

Teachers' Attitude toward SM and Teachers' Knowledge. According to Van Den Beemt, et al. [18], teachers' experiences of using social media in teaching affect their attitudes when they feel fearful due to limited knowledge, and when their attitudes shift, they gain more knowledge and professional competence. Therefore, teachers must understand and support the use of social media in teaching. Furthermore, when social media is used as a teaching tool, the effect is equivalent, the participation is increased, and the teaching efficiency is significantly improved [19]. Moreover, when teachers maintain a positive attitude toward social media use, even if they are physically separated, they remain active in online communities and use social media to communicate with coworkers and share expertise [20]. During COVID-19, this advantage was particularly clear. For instructors to develop their professional knowledge and skills, it is crucial to emphasize the significance of their attitudes regarding social media [21]. Finally, teachers' favorable attitudes toward social media can result in better grouping of participants around common objectives, collaborative activities, and mutual understanding. Therefore, we propose the following hypothesis:

Hypothesis 2 (H2). Teachers' attitudes towards using social media have significant effects on teachers' knowledge.

Teachers' Attitude toward SM and Sustainability Education. Technology development has spawned the "social media" phenomenon, which has permeated society and affected the lives of professionals like teachers. According to Van Den Beemt, et al. [18], teachers' experience of using social media in teaching influences their attitudes toward social media when they feel fearful due to limited knowledge. More-over, as a social subject, all individuals have the responsibility to make education more sustainable through cooperation [22], as teachers, they should view the development of social media correctly, and accept the positive aspects of social media with a positive attitude to promote the sustainable development of education [23]. Therefore, this study proposes the following hypotheses:

Hypothesis 3 (H3). Teachers' attitudes towards using social media influence sustainability education.

Hypothesis 5 (H5). Teachers' attitudes towards using social media influence whether sustainability education and using social media interact.

Hypothesis 6 (H6). Teachers' attitudes towards social media have a considerable impact on teachers' knowledge and their association with using social media.

Hypothesis 7 (H7). Teachers' knowledge influences teachers' attitude towards sustain-ability education and their attitude towards using social media directly.

Teachers' Knowledge and Sustainability Education.

Sustainable education is focused on strengthening the learning aspects of transitioning to sustainable development. Education is comprised of various aspects, such as education for future generations, education for

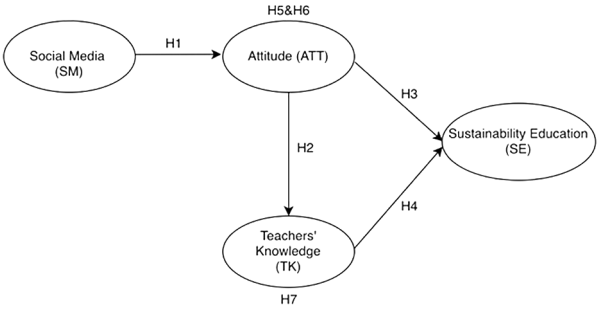

Fig. 1. Social media and sustainable education hypothesis

citizenship, education for peace through education, education for gender equality and human rights, health education, and education for conservation and sustainable use of natural resources. Wahono and Chang [24] compared three dimensions of teachers' perceptions of difficulty and their contributions to the long-term improvement of education by combining quantitative and qualitative methods. According to the findings, essential elements for the proper execution and sustainability of education are teacher knowledge and attitudes. This assertion holds particular validity in the context of sustainable education, wherein there is a significant focus on refining the requisite knowledge, skills, and competencies essential for effective decision-making and action-taking amidst complex and unpredictable situations. Therefore, the present study posits the subsequent hypothesis:

Hypothesis 4 (H4). Teachers' knowledge has a significant impact on sustainability education.

The purpose of the article. The role of social media continues to expand significantly in helping sustainable education develop through its capability to facilitate knowledge exchange among educational users. Education stands at the core of addressing environmental challenges and social as well as economic issues since society faces sustainability difficulties. Teachers stand as the main educators in education who specifically need to lead students toward the adoption of sustainable practices. The sustainable development of education relies heavily on teachers' social media engagement and their understandings because students learn academic concepts from them and they function as sustainable ethical mentors.

Social change initiatives based on education demand teachers to master digital tools specifically social media platforms for teaching improvement along with expanded student reach. The use of social media by teachers maintains their knowledge of sustainability progress and enables them to build academic networks and establish relationships with global sustainability initiatives. The ongoing reshaping of public discourse and educational trends through social media demand teachers to dedicate precise attention to its advantageous use for sustainable educational growth. Educators must develop three essential competencies: critical thinking ability, awareness about environmental issues and social responsibility skills. Teachers should also dedicate themselves to continuous learning to advance sustainability goals.

By using social media in education teachers gain the power to extend their influence past their physical school classrooms and implement cultural exchange opportunities to communicate environmental issues worldwide. Social media enables teachers to create an energetic learning environment through which they build an inclusive community that promotes sustainability values to all participants. Hence, this study aims to investigate how social media affects teachers' attitudes towards this medium, which in turn affects their knowledge and ultimately influences the effect on sustainable education.

Methods. *Sample and Procedure*. We conducted a survey of 500 faculty members who had experience using social media. The measurement items, research framework, and operational definitions are based on existing research and the assumptions of this study. Although the majority of the assessed elements were sourced from established research, the initial survey drafts underwent pretesting by students, PhD candidates, and professors. After obtaining expert feedback, we revised the questionnaire for the final measurement of the model. Instead of simply asking respondents whether they agree with a statement of opinion, the research paper used a Likert scale item that asked how much employees agreed or disagreed with a point of view, usually on a scale of 1 (strongly disagree) to 7 (strongly agree), with 4 representing neutral.

University professors participated by accessing social media to complete the research survey. Online surveys are operated in this study because they provide the advantages of sampling various locations through the internet network and generating responses at a reduced financial cost and with minimal delays. The online distribution method makes the survey easy to share while it provides participants with convenience by letting them perform surveys at their preferred time while maintaining control over their speed. The collection method provides special benefits when researchers need to reach numerous academic professionals who reside across various locations.

The questionnaire description included information about valuable prizes for twenty participants who gave valid questionnaire responses. The incentive framework aimed to boost participation and gather an adequate number of completed survey responses. The study introduced practical prizes to improve volunteer rates among survey responders because online surveys typically have low participation levels.

The survey kept its reliability by implementing procedures that prevented users from repeating questionnaire responses. The system removed duplicate survey responses sent through the same email address to eliminate duplicate counting of survey participant answers. The confirmation method played an essential role because it prevented results from being distorted by extra representatives from individual participants.

The survey contained test sample questions which helped enhance data quality for better assessment purposes. The survey included questions that evaluated respondent engagement to keep actual intentional answers in the data collection. Responses containing random elements or incompleteness automatically received deletion from the dataset. The research team established this meticulous assessment method to uphold both the reliability and validity of the gathered data which improved the study's findings' credibility. These methodologies operated together to overcome typical survey research obstacles in electronic research and create high-quality information collection. In addition to the aforementioned metrics, the huge sample size used in this study may have significantly increased the statistical analysis's robustness. There are two sections to the questionnaire: The first section looks into the fundamental private data surrounding social media use (gender, educational background, age, work history, and daily time spent on social media). The second part of this research is intended to measure hypothetical items in order to enhance the quality of the questionnaire, and it must be completed before all of the questions are submitted.

Survey Data Collection. As a result, we have selected the most popular questionnaire websites in China, and the system can be accessed from both PCs and mobile devices with ease. Data was collected in China over a period of two months. We contacted respondents by email in order to ensure they understood the survey as much as possible. A total of 500 questionnaires were distributed, and after screening, 451 questionnaires were recovered, representing a 90.2 % recovery rate.

Table 1 shows the participant statistics. There were 48.78 % of male respondents and 51.22 % of female respondents in the sample. Furthermore, the majority of respondents (29.93 %) have worked for six to ten years, followed by eleven to fifteen years (27.72 %). There are 41.24 % of teachers hold master's degrees, followed by 37.03 % who hold doctoral degrees. More than 79 % of respondents stated that they spend more than 60 minutes a day online.

Results. Partial least squares (PLS) measurements were made using two different measuring techniques in this work. Evaluation of the path coefficients and structural models' explanatory power is done once reliability and validity tests have been completed. These two phases' goals are to examine the constructs' relative reliability and validity as well as their relationship to one another. The PLS approach, which works with both model measurements and constructed variables, has been employed and is thought to be appropriate for inspecting causal links among constructed variables [23]. Furthermore, PLS has relatively moderate requirements for normality and randomness of variables [25], so it is well suited for examining associations between constructs in complex predictive models. As a result, PLS was considered to be more apt for this research than other methods of structural equation analysis.

Outer model and scale validation. The factor loading indicates the degree of measurability, and the threshold value is 0.6 to represent the reliability of the individual [26]. As shown in Fig. 2, for all measurement items in this study, the factor loading is at least 0.870, so they all meet the standard. In addition, according to Chin [27], all CR values of each structure are greater than the threshold value of 0.7, as can be seen in Table 2, all CR values of this study are higher than 0.7.

Table 1

Demographics of the participants

Characteristics	Items	Frequency	Percentage
Gender	Male	220	48.78
	Female	231	51.22
Work experience	0–5	113	25.06
	6–10	135	29.93
	11–15	125	27.72
	Above 15	78	17.29
Education Level	Diploma/ Bachelor	98	21.73
	Master	186	41.24
	Doctoral	167	37.03
Daily time of using social media	≤ 1 hour	94	20.84
	1 hour– 3 hours	169	37.47
	more than 3 hours	188	41.69

Convergent validity is the strength of the correlation between the variables tested directly in the construct. In terms of convergent validity, the study takes into account both the factor loading and the composite reliability when measuring each question, as well as taking into account the AVE index of each construct when determining convergent validity. In general, if this index is greater than 0.5, the concept possesses strong convergent validity [28]. From Table 2, it can be seen that the AVE of the latent variables constructed in this study falls between 0.772 and 0.816, indicating a good degree of convergent validity.

The discriminant validity of a test variable refers to how well it is able to distinguish between different constructed criteria. In [29], a testing method technique is discussed that utilizes hetero trait mono trait (HTMT) of correlations that are built on a matrix based on multi trait simulation methods matrix. Thus, HTMT is used in this study to assess discriminant validity. Based on the findings of Gold, et al. [30], discriminant validity is not subject to severe problems when the HTMT value is less than 0.90, and as shown in Table 3, all values are below the 0.90 threshold, indicating that discriminative effectiveness has been achieved. Moreover, as shown in Table 4, the factor loadings on the underlying constructs of each scale item in this study are higher than their loadings on any other constructs [31], which indicates that the cross-loadings and factor loadings are reasonable. This study demonstrated that the scales have reasonable discriminatory validity based on the comparison of loadings.

Inner model and hypotheses testing. An internal model is utilized to estimate the R-squared route coefficients. The hypothesis was tested using a PLS analysis that relied on the internal model. Bootstrap assessments are considered more precise than standard approximations [32]. So, the apparent value of each path coefficient was estimated using the bootstrap method.

Table 5 and Fig. 2 show that social media use has a positive and significant effect on teachers' attitudes toward social media, supporting H1 (SM → ATT:

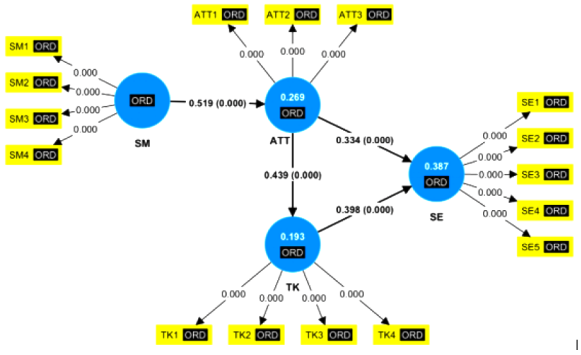

Fig. 2. Standardized path coefficients and significance of the inner model

Table 2

Reliability and AVE of the outer model

No	Factors	Code	Factors Loading	Cronbach's Alpha	AVE	Composite Reliability
1	Social Media (SM)	SM1	0.894	0.906	0.779	0.906
2		SM2	0.889			
3		SM3	0.884			
4		SM4	0.864			
5	Attitude (ATT)	ATT1	0.914	0.887	0.816	0.888
6		ATT2	0.901			
7		ATT3	0.895			
8	Teachers' Knowledge (TK)	TK1	0.893	0.901	0.772	0.902
9		TK2	0.876			
10		TK3	0.870			
11		TK4	0.875			
12	Sustainable Education (SE)	SE1	0.895	0.933	0.788	0.933
13		SE2	0.880			
14		SE3	0.886			
15		SE4	0.894			
16		SE5	0.884			

Note: SM = Social Media; ATT = Attitude; TK = Teachers' Knowledge; SE = Sustainable Education

Table 3

Results of discriminant validity by HTMT

	ATT	PE	TG	TR
ATT	–	–	–	–
PE	0.490	–	–	–
TG	0.578	0.550	–	–
TR	0.559	0.594	0.564	–

Note: SM = Social Media; ATT = Attitude; TK = Teachers' Knowledge; SE = Sustainable Education

β = 0.519, *t*-value = 11.687). The analysis shows that teachers' attitudes toward social media have a significant direct impact on teacher knowledge and sustainable education, supporting H2 and H3 (ATT → TK: β = 0.439, *t*-value = 9.300; ATT → SE: β = 0.334, *t*-value = 7.277). There is also support for H4 in this study, which is that teacher knowledge has a significant impact on sustainable education (TK → SE: β = 0.398, *t*-value = 8.615).

Testing of mediation effects. To ascertain whether the mediation model put out in this work is statistically significant, the Sobel test and path analysis are performed [33]. First, based on the Z value and the ap-proximate p-value, the Sobel test is performed to establish whether or not there is a significant in-direct effect, as shown in Table 6.

If a mediator variable's absolute z-score is more than 1.96, then there is a significant mediating influence between the independent and dependent variables [34, 35].

It is important to examine teachers' attitudes and knowledge as this research pertains to the sustainability of education. This study seeks to investigate how social media affects teachers' attitudes towards using social media platforms, affecting teachers' knowledge and competencies and ultimately impacting sustainable education.

Table 4

Standardized factor loadings and cross loadings of the outer model

	ATT	TK	SM	SE
ATT1	0.914	0.412	0.456	0.456
ATT2	0.901	0.379	0.457	0.457
ATT3	0.895	0.398	0.492	0.465
TK1	0.404	0.893	0.459	0.493
TK2	0.390	0.876	0.430	0.465
TK3	0.375	0.870	0.438	0.479
TK4	0.372	0.875	0.422	0.478
SM1	0.476	0.464	0.894	0.466
SM2	0.462	0.421	0.889	0.464
SM3	0.454	0.462	0.884	0.455
SM4	0.439	0.410	0.864	0.446
SE1	0.471	0.503	0.470	0.895
SE2	0.446	0.465	0.444	0.880
SE3	0.453	0.491	0.459	0.886
SE4	0.455	0.489	0.460	0.894
SE5	0.432	0.467	0.467	0.884

Note: SM = Social Media; ATT = Attitude; TK = Teachers' Knowledge; SE = Sustainable Education

Based on the proposed model, the findings reveal a strong association between social media usage and teachers' attitudes towards it. Moreover, social media

Table 5

Summary of inner model results

Hypothesis	Path coefficient	*T*-Value	Result
H1: SM → ATT	0.519***	11.687	Supported
H2: ATT → TK	0.439***	9.300	Supported
H3: ATT → SE	0.334***	7.277	Supported
H4: TK → SE	0.398***	8.615	Supported

Note: SM = Social Media; ATT = Attitude; TK = Teachers' Knowledge; SE = Sustainable Education. Number of bootstrap samples = 5,000

Table 6

Mediation effects testing

Relationship	z-Value of Sobel test	Bias-corrected percentile bootstrap confidence intervals (95 %)
H5: SM → ATT → TK	7.277***	(0.154, 0.303)
H6: SM → ATT → SE	6.177***	(0.115, 0.238)
H7: ATT → TK → SE	6.320***	(0.118, 0.236)

Note: SM = Social Media; ATT = Attitude; TK = Teachers' Knowledge; SE = Sustainable Education. Number of bootstrap samples = 5,000

and its implications for sustainable education are advantageous and relevant to teachers' perspectives. The results support the developed research model and proposed hypotheses. Most of the hypotheses are consistent with previous studies; however, the relationship between media and sustainable education differs from previous studies. For example, Abbas, et al. [5] contend that excessive use of social media results in inadequate critical thinking, time-wasting, and disruption of writing skills, all of which are detrimental to sustainable education.

Researchers identify essential information that demonstrates how teachers' views toward social media platforms together with their understanding affect sustainable education implementation. Results show that teachers' social media attitude serves as a partial mediator between teachers' social media adoption and their ability to promote sustainability in education. Ready implementation and effective integration of social media technology in educational practices become feasible through teachers possessing positive social media attitudes. The benefits of social media usage for sustainable education objectives have been confirmed by previous studies yet these investigations mainly ignored how teachers' attitudes shape these outcomes. These new understanding capabilities contribute to the educational field by showing positive attitudes enable teachers to evaluate social media tools against learning goals thus creating better learning environments for their students.

The research establishes a notable positive connection between social media attitude levels of educators and their understanding of professional practices which shows that teacher beliefs directly affect their usage of social media for educational applications. Educational leaders who express positive attitudes when dealing with social media demonstrate better capabilities to use social platforms in both academic communication and novel teaching strategies. Their proactive usage of social media tools supports both their professional growth and their ongoing student learning practices and enhances their professional abilities. Teachers who enhance their professional knowledge become competent at designing educational content which meets modern educational requirements thus playing a pivotal role in education sustainability. Moreover, Strategic investments from educational institutions need to establish initiatives that build positive social media attitudes among their teaching force. The implementation of training sessions and digital literacy programs and workshops dedicated to social media use practices should be supported by educational institutions to build teacher confidence and competence. Such institutional backing will allow educators to actively embrace innovative tactics while they participate in resource sharing and active field development participation. This integrated approach optimizes educational quality and responsiveness and sustainability because it allows teachers and students to maximize the potential benefits of social media in their academic learning processes. Therefore, compared to previous studies, this research investigates the association between social media use and sustainable education based on teachers' attitudes toward social media and their knowledge, bridging the gaps in previous research.

Conclusions. *Theoretical Implications.* This research has a number of theoretical ramifications. The scarce evidence regarding social media effects on education led us to examine this phenomenon through theoretical constructs even though direct proof is scarce. This research expands theoretical knowledge by demonstrating how teachers' skills and their views about social media determine the way these platforms get used toward education results in sustainable learning environments. The findings create opposition to former research projects which presented school outcomes through simple yes/no evaluations between social media and education. Social media benefits described in this study depend directly on teachers' academic qualifications combined with their readiness to use technology and their existing knowledge base. The relationship between effective digital tool integration capabilities of teachers and their impact on learning experiences has been empirically proven by research findings.

Successful classroom technology adoption follows the Technology Acceptance Model (TAM) because teachers must perceive technology as useful and easy to use as well as understand its relevance to their teaching content. The research uses this adapted model to present novel theoretical approaches for studying how teacher-specific factors affect learner digital tool behavior while influencing their outcomes. The comprehensive awareness about this topic helps advance persistent pedagogic change by proving that educational practices need adjustment when confronted with quick-moving technological devices.

This study reveals that educators' digital identities together with their teaching beliefs require a new position inside frameworks of educational sustainability. Educational results are improved when researchers investigate how teachers' technology attitude and social media readiness affect their work according to this study which supports transitioning education into the digital age. Research findings provide fundamental knowledge about social media education interactions that pave the

way for improved theoretical progress. Also, it depicts the importance of teacher-centric aspects for digital tool discussions in education so they become essential building blocks for upcoming investigations and educational practices in our digitalized society. The evaluation of instructor attitudes and knowledge leads to substantial improvement in the beneficial connection between social media use and sustainable education.

Practical Implications. The current body of literature renders various empirical implications. The emphasis on teachers is pivotal in education for sustainable development (ESD) because teachers' attitudes, knowledge, and literacies significantly shape the outcomes in this field. The findings from recent research underscore statistically significant positive correlations between teachers' active use of social media platforms and their favorable attitudes towards these technologies. The teachers' positive attitudes strengthen their educational capacity which leads to more effective implementation of sustainable education.

Social media aids sustainable education progress through authorized knowledge acquisition that subsequently transforms into advanced learning methods. Educational organizations need to establish planned social media approaches for building teachers' digital literacy capabilities and developing sustainable educational methods. Teachers play an irreplaceable role toward achieving sustainable education goals and making sustainable progress in their implementation.

Teachers who bring social media into their classrooms earn opportunities to apply relevant contemporary technologies in teaching practices which better suit modern student requirements. Educational activities on social media platforms became essential during lockdowns because they enabled students to continue their studies from separate locations. Through social media platforms, educators achieved real-time connections with students while exchanging instructional materials as they continuously communicated to deliver education which remained both convenient and stimulating to students across unprecedented circumstances.

The digital transformation requires active leadership support from educational leaders who hold positions as school principals. The primary responsibility of these leaders is to guarantee that teachers and students obtain proper usage and training of digital resources needed for their academic and professional needs. The active involvement of school principals in this support area increases the effectiveness of social media in education leading to sustained educational practices.

The government needs to develop precise digital response strategies which serve as actionable plans with clarity for all agencies to follow. Thorough strategic planning will facilitate uniform digital education practice adoption across all institutions which will boost the efficiency and defensive capability of the education system extensively. Top educational leaders together with teachers and policymakers need to collaborate efficiently to unlock all opportunities that social media offers for education sustainability development.

Limitations and Future Research. Although this study shows some limitations, it may be a starting point for future studies. It is only done in one country, an absence of representativeness and also self-selection. To draw general conclusions, the studies may be conducted with multiple countries for surveys. Furthermore, given that China is a developing economy, future research may also be possible based on developed economies for comparison.

Likewise, barriers to integrating social media in daily practices which include culture and teaching in institutions may shape teachers' attitudes with respect to the use of social media in online education.

Finally, since social media is mainly used in urban areas, it is noteworthy to mention that in this research, only the situation in which social media is usually utilized in China is observed. Not all platforms are equally effective in teaching and learning and their effectiveness varies according to the content being studied, the level of study, and the culture in which they are implemented. The results might not hold in China's underdeveloped areas. Therefore, augmented inferences might be made if urban and underdeveloped areas are compared.

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Соціальні медіа та стала освіта: аналіз посередницької ролі й компетентності викладачів

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Мета. Аналіз впливу соціальних медіа на ставлення викладачів до цього медіа, на їхні знання та, зрештою, на сталу освіту в цілому.

Методика. Вважається, що теорія обґрунтованих дій забезпечує теоретичне підґрунтя. Дана теорія та існуюча наукова література стали основою даної роботи. Ми використали метод стратифікованої випадкової вибірки для отримання й аналізу кількісних даних, використовуючи 451 дійсну відповідь від викладачів університету. Ми використали PLS-SEM як техніку багатовимірного аналізу.

Результати. Результати показують, що використання соціальних мереж позитивно впливає на ставлення викладачів до соціальних мереж, що, у свою чергу, покращує їхні знання. Крім того, як ставлення педагогів до соціальних медіа, так і їхні знання роблять позитивний внесок у сталу освіту.

Наукова новизна. Наше дослідження виявило, що розвиток знань викладачів і стабільність освіти підтримуються соціальними медіа, які сприяють позитивному ставленню до медіа.

Практична значимість. Результати дослідження мають як академічні, так і практичні наслідки, що служать основою для просування сталої освіти.

Ключові слова: *соціальні медіа, стала освіта, знання педагогів, PLS-SEM, SmartPLS 4*

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