

Article

Expert Credibility Factors and Their Impact on Digital Innovation and Sustainability Adoption in China's Social Media Ecosystem

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Abstract

The successful implementation of digital transformation initiatives depends critically on public trust in experts guiding these processes. In today's digital media environment, expert trust faces significant challenges, potentially hindering sustainable innovation adoption. This study investigates how expert credibility dimensions and information characteristics shape trust in digital transformation experts among Chinese social media users. We employed a mixed-methods approach combining a survey of 850 Chinese social media users, a quasi-experiment testing a digital expert verification feature, and secondary data analysis. The study measured multiple dimensions of expert trust while examining relationships with expert cognition factors and media usage variables through regression, mediation, and structural equation modeling. Expert trust in digital transformation exists at moderate levels ($M = 6.82/10$), with higher trust in digital innovation research ($M = 7.12$) than specific sustainability recommendations ($M = 6.59$). Expert authenticity emerged as the strongest predictor of trust ($\beta = 0.27$), followed by professional competence ($\beta = 0.21$). A "digital exposure paradox" emerged whereby higher volumes of expert information negatively predicted trust ($\beta = -0.18$), while information quality positively predicted trust ($\beta = 0.25$). The digital verification feature causally enhanced trust ($DID = 0.57$), with institutional sources strengthening trust while user-generated content diminished it. The findings reveal that digital transformation expert trust involves multi-dimensional evaluations beyond traditional credibility assessments. The "digital exposure paradox" suggests that prioritizing information quality over quantity, demonstrating expert authenticity, and implementing verification mechanisms can enhance trust and accelerate sustainable digital transformation adoption.

Keywords: digital transformation; expert trust; digital sustainability; information quality; social media; digital innovation adoption; expert credibility



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1. Introduction

In the contemporary era of digital transformation driving sustainable innovation, uncertainty has emerged as a pervasive cognitive crisis affecting the adoption of digital sustainability solutions, with the public increasingly susceptible to unreliable information and advice regarding digital transformation initiatives. Digital media plays a crucial role in this phenomenon [1], particularly in sustainability-focused digital innovations closely related

to environmental technology, green digital solutions, and sustainable business model transformation [2,3]. While expert systems should serve as primary information sources guiding digital transformation toward sustainability through their “normative” and “professional” factors and generating trust to address uncertainties in digital innovation adoption, the very nature of uncertainty is often perceived as symbolic behavior in expert controversies [4]. Communicating uncertainty about digital transformation outcomes is vital for establishing credibility in sustainable innovation initiatives [5,6], yet it simultaneously evokes feelings of crisis and risk among stakeholders considering digital sustainability investments.

The proliferation of misinformation on social media platforms and its erosion of expert information [7,8], coupled with instances of scientific misconduct [9], have led to increased public distrust in experts and science [10–12], directly undermining confidence in expert-guided digital transformation strategies for sustainability. Public perceptions of science and experts are crucial for successful digital innovation adoption, influencing organizational support for sustainable digital initiatives and individual decision-making based on expert recommendations for digital transformation [13]. These public behaviors can significantly impact the effectiveness of digital transformation efforts aimed at achieving environmental, social, and economic sustainability goals [14].

Recent studies have revealed a growing distrust and devaluation of expertise across multiple democratic nations [15–18], creating significant barriers to implementing expert-recommended digital sustainability solutions. From digital transformation consultants advocating for sustainable technology adoption during organizational change to environmental scientists promoting digital innovations for climate mitigation, expert opinions have become increasingly prominent and controversial in the digital public sphere [19,20]. Paradoxically, while the demand for expert knowledge in digital sustainability transformation has increased with growing environmental urgency, public trust in these experts has shown instability [12,21], potentially hindering critical digital innovation implementations.

This crisis of expert trust is global, and China is no exception. The phrase “experts should not give advice” frequently trends on Chinese social media platforms like Sina Weibo. The public finds itself in a “porcupine dilemma”, distrusting experts yet compelled to rely on them, while experts face a “Tacitus trap”, where public distrust persists regardless of their statements or methods [22].

Despite previous research focusing on public perceptions of experts, several gaps remain particularly relevant to digital transformation and sustainability contexts. Firstly, the conceptualization and operationalization of variables measuring expert trust in digital sustainability initiatives lack consistency, sometimes overlapping or being used interchangeably. For instance, trust is sometimes viewed as an independent construct but at other times incorporated into credibility measurements [23], leading to overly broad and ambiguous interpretations that fail to guide effective digital transformation strategies. Secondly, existing measures still primarily utilize the three-dimensional scale of expert cognitive credibility [24], without fully incorporating new variables relevant to the digital transformation era, such as digital literacy, sustainability expertise, innovation capability, openness, Digital Information Quality, and Digital Information Quantity in digital contexts. Thirdly, while most studies generally demonstrate a decline in public trust towards institutions and authority figures, including experts [25–27], and the negative impact of social media use on trust, there is a need to identify specific public perceptions regarding the trustworthiness of experts in digital transformation and sustainability contexts and their information. What specific perceptions are most crucial for digital innovation adoption? What is the exact level of public trust in digital sustainability experts, and which psychological or behavioral states genuinely support digital transformation initiatives? Furthermore, existing research on expert trust is predominantly based on data from Western liberal democracies with similar

political systems and economic development levels. As Chinese digital innovations gain global application and China becomes increasingly influential in sustainable technology development, the perceptions of Chinese users towards experts warrant further attention for understanding global patterns of digital transformation success, yet research in this area remains limited.

This study aims to understand the basic cognition of expert groups by Chinese social media platform users and the factors influencing public trust in experts through comprehensive measurement of multiple perceptual variables, with particular emphasis on implications for digital transformation and sustainable development initiatives, focusing on expert background, expert cognition, and information quality in digital innovation contexts. Specifically, this research seeks to answer the following questions: RQ1: How do social media users perceive experts, particularly those involved in digital transformation and sustainability initiatives? RQ2: What is the relationship between trust in experts and people's media use and their methods of accessing expert information about digital innovation and sustainable development? RQ3: What factors influence users' trust in experts in the social media environment, especially regarding digital transformation guidance and sustainability recommendations? How do these factors collectively shape public trust in experts and subsequently affect digital transformation success?

To achieve these objectives, this study reviews literature on expert trust, expert credibility measurement, and social media information quality within the framework of digital transformation and sustainability innovation to establish the measurement methods and indicators. An online questionnaire survey of 850 adult social media users was conducted, complemented by data from the authoritative Chinese General Social Survey (CGSS) to provide comparative evidence on general trust, expert trust, and the relationship between social media and expert trust in digital transformation contexts. The study also examines the varying degrees of influence of multiple perceptions on expert trust and offers suggestions for enhancing perceptual measurements, providing important references for improving public communication effectiveness in digital transformation initiatives and promoting social consensus toward sustainable development goals through digital innovation.

2. Theoretical Framework

2.1. Conceptualization of Trust in Digital Transformation Context

To ensure conceptual clarity and address reviewer concerns about blurred distinctions, this research distinguishes between three core constructs: credibility refers to perceived expertise and reliability of information sources; trust encompasses both cognitive and affective dimensions involving willingness to be vulnerable based on positive expectations; and reliability denotes the consistency and stability of information characteristics.

Trust, as a multidisciplinary concept particularly critical in digital transformation and sustainability initiatives, has evolved continuously. While scholars have identified common essentials in trust conceptualization, existing frameworks inadequately address the dynamic nature of digital transformation where expert recommendations must navigate unprecedented technological uncertainties. These essentials include the following: trust involves a trustor and trustee who are interdependent, particularly relevant in stakeholder relationships during digital transformation projects; it involves risk situations for the trustor, especially pertinent when organizations depend on expert guidance for digital innovation and sustainability strategies; the trustor perceives it as voluntary, crucial for adoption of digital transformation recommendations; and it includes different types or sources of trust concepts, with many relating to positive expectations regarding digital sustainability outcomes [28]. However, these traditional frameworks inadequately address

the dynamic nature of digital transformation where expert recommendations must navigate unprecedented technological uncertainties and sustainability imperatives.

Trust is often conceptualized as an attribute of an individual—generally a belief, attitude, or even a personality aspect at the individual level—including perceptions of others' reliability and acceptance of one's own vulnerability arising from others' actions, which becomes particularly significant when stakeholders rely on expert recommendations for digital transformation and sustainable development initiatives. Some scholars define trust as "an individual's belief in, and willingness to act on the basis of, the words, actions, and decisions of another" [29], a definition that directly applies to organizational decisions regarding digital innovation based on expert advice. Others describe it as "a psychological state comprising the intention to accept vulnerability based upon positive expectations of the intentions or behavior of another" [30,31]. These definitional inconsistencies become problematic when organizations must evaluate competing expert recommendations for digital innovation strategies. Some researchers argue that trust in the digital environment requires a dynamic framework to explain algorithms—algorithmic mediation and data-driven decision-making [32]. Despite widespread acceptance, the organizational management definition of trust as willingness to assume risk based on an agent's ability, integrity, and benevolence fails to capture the multi-stakeholder complexity inherent in digital transformation initiatives [33]. Recent scholarship has critiqued traditional trust models for their inability to address trust in hybrid human-AI expert systems increasingly prevalent in sustainability consulting [34].

Trust is essential for cooperation, coordination, social order, and reducing the need for state coercion [35], all fundamental requirements for collective action toward digital sustainability goals. As some scholars pointed out, trust constitutes an effective form of complexity reduction, significant in increasingly organized social structures [36], which is particularly relevant in managing the complexity of digital transformation and sustainability challenges. Some scholars argue that all successful economic societies are united by trust, while a lack of trust leads to poor economic performance and potential social problems [37], a principle that extends to the success of digital transformation initiatives and sustainable development efforts.

Trust operates along a spectrum rather than as a simple binary, particularly in the complex landscape of digital transformation where stakeholders may have varying levels of confidence in different aspects of sustainability initiatives. Some scholars view the concept of trust as a spectrum consisting of trust, suspicion, and distrust. Trust refers to believing in the credibility of others, including digital transformation experts and sustainability advocates. Lack of trust can manifest in two forms: mistrust and distrust. Mistrust reflects doubt or suspicion about the credibility of others, while distrust reflects a firm belief in the untrustworthiness of others [38], both of which can significantly impact the adoption of digital sustainability strategies.

This spectrum framework, however, fails to account for the contextual variability of trust across different aspects of digital transformation recommendations. Research demonstrates that public trust in digital transformation experts varies significantly across technological domains, with highest skepticism toward AI-driven sustainability solutions. Furthermore, "mistrust" represents a unique member of the trust family because it is not based on established beliefs about trustworthiness, but involves an ongoing process of feedback and updating that coordinates trust assessment with credibility evaluation. Different degrees of trust attitudes may trigger different adjustments in public behavior, particularly relevant to understanding varying levels of support for digital transformation and sustainability initiatives [39]. This provides a foundation for this study to further analyze the

degree of public trust in experts, especially those involved in digital transformation and sustainable development.

2.2. *Credibility and Trust: A Critical Analysis*

The theoretical distinction between credibility and trust remains contentious despite decades of scholarly attention, with fundamental disagreements persisting about their conceptual boundaries and empirical measurement. This theoretical confusion has practical implications, as stakeholders struggle to evaluate expert recommendations when conceptual frameworks provide unclear guidance. Credibility, traditionally conceptualized as perceived expertise and trustworthiness of information sources [40], emphasizes cognitive evaluation of source characteristics including competence, expertise, and reliability. In contrast, trust involves both cognitive and affective dimensions, encompassing willingness to be vulnerable based on positive expectations of another's intentions and behaviors [41]. However, this conventional distinction proves inadequate when applied to digital transformation contexts, where the boundaries between information credibility and interpersonal trust become increasingly blurred through algorithmic mediation and social media interactions [42].

Recent meta-analytical research challenges this dichotomy, demonstrating that credibility assessments inherently involve trust-like vulnerability, particularly when stakeholders must act on expert recommendations without complete information verification capabilities [43]. Moreover, the assumption that credibility precedes trust fails to account for simultaneous, iterative evaluation processes evident in expert–stakeholder relationships during digital transformation initiatives [44].

Rather than distinct constructs, credibility and trust may represent interconnected facets of a broader evaluative process wherein cognitive assessments of expertise interweave with affective judgments about benevolence and integrity [45]. This reconceptualization challenges researchers to develop integrated frameworks that acknowledge the contextual fluidity between credibility and trust rather than perpetuating artificial theoretical boundaries that obscure rather than illuminate expert–public relationship dynamics in digital transformation initiatives.

2.3. *Expert Trust and Its Crisis in Digital Transformation Era*

Although trust is an abstract attitude, it always has an object and an action domain [38]. The expert trust system constitutes an important institutional component, particularly crucial for implementing digital transformation and sustainability initiatives. Experts in digital transformation contexts refer to professionals with relevant technical backgrounds in digital innovation, sustainable technology, and business model transformation who possess applicable knowledge for new scenarios while shouldering specific societal missions [46].

Expert trust includes two levels: inter-expert trust and public trust in experts. The definition of “expert” has evolved significantly, with digital transformation creating new expertise categories. Historical development progressed from religious authorities [47] through Enlightenment empiricism [48]. In contrast, religious conservatives have shown low trust in science and unwillingness to support it [49], contrasting with the characteristics of modern expert groups involved in digital innovation and sustainability. The 20th century witnessed the rise of technical experts, with expertise becoming crucial in policy-making [50], laying groundwork for today's digital transformation experts and sustainability consultants.

In contemporary society, the definition of an expert has become more complex, particularly with the emergence of digital transformation specialists and sustainability experts. Education, peer recognition, and practical experience are all factors in determining ex-

expertise [51], with digital literacy and sustainability knowledge becoming increasingly important qualifications. However, the digital age has blurred these boundaries, allowing for the emergence of “amateur experts”, challenging traditional concepts of expertise and expert authority [52], particularly relevant in digital transformation and sustainability fields where new forms of expertise are constantly emerging.

Historically, expert opinions were often accepted without question, especially in fields like medicine and science, but digital transformation has introduced new complexity to expert authority. In the mid-20th century, public trust in experts was high, consistent with rapid technological progress [53], similar to early enthusiasm for digital innovation. However, the latter half of the 20th century witnessed growing skepticism, partly due to high-profile failures of expert predictions and policy recommendations [52,54], which now extends to concerns about digital transformation outcomes and sustainability claims. Numerous surveys indicate that Western societies face severe challenges from scientific populism, with societal-level scientific populist attitudes potentially influenced by factors such as the politicization and commercialization of science, the relationship between the general public and scientific elites, and the heterogeneity of expert statements [49,55], all of which affect trust in digital transformation and sustainability experts. Chinese society has also shown signs of scientific populism, mainly manifested in the crisis of expert trust [56], particularly evident in public skepticism toward digital transformation initiatives and sustainability projects.

Since the 21st century, the democratization of information has led to what some scholars call the “death of expertise” [52], particularly challenging for digital transformation experts who must navigate rapidly changing technological landscapes and sustainability requirements. The complexity of modern problems, including digital transformation challenges and sustainability imperatives, has also created a contradictory relationship between society and expertise [57]. At the same time, if people misjudge the credibility of experts and non-experts on social media and rely on misleading information and advice from pseudo-experts regarding digital transformation and sustainability, it affects people’s ability to identify credible expert information, and trust can easily become harmful [58,59]. The complexity of digital sustainability challenges demands specialized knowledge, yet public inability to distinguish credible from pseudo-experts undermines crucial innovation efforts. Social media misinformation about digital sustainability solutions has increased, creating what they term an “expertise credibility crisis” [60].

2.4. Expert Cognition and Credibility Measurement in Digital Context

Perception of experts, like other social cognitions, generally involves inferring intentions (warmth) and ability (experience), which is particularly important when evaluating digital transformation experts and sustainability consultants. Currently, research on factors or indicators influencing public perceptions of experts uses different concepts, with some studies focusing on trust or trustworthiness [14,24], while others tend to highlight the concept of credibility [61]. This conceptual confusion hampers development of reliable measurement instruments for expert credibility in sustainability contexts.

Trust research has extensively explored which characteristics of trustees are viewed as trustworthy in different situations, including digital transformation and sustainability contexts. Interestingly, the dimensions identified are very similar to those found in expert trust or expert credibility research [24], providing a reference for the general public to judge expert credibility in digital transformation and sustainability domains, i.e., experts’ “cognitive credibility”. “Cognitive credibility” describes the characteristics of experts that determine whether recipients will rely on and listen to them due to their own limited resources [62–64], particularly relevant when stakeholders must evaluate competing rec-

ommendations for digital transformation and sustainability strategies. However, public evaluation of digital transformation experts involves significant emotional processing, challenging purely cognitive credibility models.

Based on previous research and considering the specific context of digital transformation and sustainability [14,24,61], this study conceptualizes the cognitive credibility of expert trust through the following dimensions: (a) Professional competence (expertise), including both traditional domain expertise and digital literacy, as well as understanding of sustainability principles and digital innovation capabilities; (b) Integrity, including all aspects related to the honesty (reliability) of information sources, objectivity, and adherence to recognized standards, particularly important for digital transformation recommendations and sustainability claims; (c) Benevolence, kindness and concern towards others and society, especially relevant for experts promoting digital transformation for societal benefit and sustainable development goals; (d) Openness, the expert's willingness to listen, express others' opinions, or give others a voice in communication, crucial for stakeholder engagement in digital transformation initiatives and collaborative approaches to sustainability challenges.

These dimensions comprehensively consider the influence factors of cognitive trust and emotional trust in expert trust, including discussions and debates by researchers from different disciplines on experts in cognitive trust and emotional trust, which can more multi-dimensionally study how the public evaluates experts from the perspectives of objectivity and morality, particularly in the context of digital transformation and sustainability expertise. Based on these dimensions and existing research [65–68], this study proposes the following hypotheses, as shown in Table 1.

Table 1. Research Hypotheses on Expert Credibility Based on Four Dimensions.

Hypothesis	Description
H ₁ : Higher professional competence leads to increased expert trust.	H _{1a} : The greater the depth and breadth of expert professional knowledge, including digital literacy and sustainability expertise, the higher the level of expert trust. H _{1b} : The more extensive the expert's domain experience in digital transformation and sustainability initiatives, the higher the level of expert trust.
H ₂ : Greater expert integrity correlates with higher levels of trust.	H _{2a} : Expert independence from political and economic influences positively affects trust levels, particularly important for digital transformation and sustainability recommendations. H _{2b} : Stronger scientific rigor in expert assertions about digital innovation and sustainability correlates with higher trust levels.
H ₃ : Higher levels of expert benevolence correspond to increased public trust.	H _{3a} : Greater alignment between expert and public values regarding digital transformation benefits and sustainability goals leads to higher trust levels. H _{3b} : Expert consensus on specific digital transformation and sustainability issues positively correlates with public trust.
H ₄ : Enhanced expert-public communication capability correlates with higher trust levels.	H _{4a} : Expert willingness to listen to and express others' opinions about digital transformation and sustainability positively influences trust. H _{4b} : Regular disclosure and feedback on digital transformation and sustainability research processes enhances expert trust.

2.5. Expert Trust and Media Usage in Digital Transformation Context

Social media platforms have become increasingly crucial for scientific communication and discourse related to digital transformation and sustainability, as experts utilize these platforms for collaboration and research dissemination about digital innovation and sustainable development [69], while the general public relies on the internet for information acquisition regarding digital transformation trends and sustainability practices [70]. In existing research on expert trust, media usage is typically considered one of the influential

factors affecting public trust in experts, as media representation of experts and science shapes public perception and, consequently, trust levels, particularly important for digital transformation experts and sustainability advocates who often depend on media platforms to communicate complex technical concepts and sustainability benefits.

While some commentators express concerns about digital platforms' potential adverse effects on the public status of expert knowledge [52], particularly regarding digital transformation recommendations and sustainability claims, research indicates positive correlations between online media usage, favorable attitudes toward science, and scientific literacy [71,72], which may extend to attitudes toward digital innovation and sustainability. Social media users obtain scientific news not only from journalists but directly from experts, including those specializing in digital transformation and sustainable development. Studies suggest that television experts are perceived as more competent than their YouTube counterparts, though YouTube experts are considered more engaging, which positively influences credibility [73], a finding that may apply to digital transformation experts using different media platforms. However, in Chinese social media, expert information presented through the "trending topics mechanism" increasingly faces user resistance and opposition [74], particularly affecting digital transformation experts and sustainability advocates. Chinese social media resistance to expert trending topics exemplifies broader international patterns where algorithmic amplification mechanisms systematically favor sensational over accurate content. Based on these findings and Chinese phenomena, this study proposes the following hypotheses:

H₅: Social media expert trending productivity negatively correlates with expert trust levels. H_{5a}: Higher visibility of expert information about digital transformation and sustainability in news media reports on social media correlates with lower expert trust. H_{5b}: Higher visibility of user-generated content about digital transformation and sustainability experts on social media correlates with lower expert trust.

Beyond social media information production quantity and presentation mechanisms, information quality should be incorporated as a specific factor in examining expert trust, particularly for complex topics like digital transformation and sustainability that require accurate and comprehensive information. As a core characteristic, information quality represents the accuracy, precision, and clarity of information transmission [75], or evaluates source credibility through indicators related to fairness, accuracy, and unbiasedness, all critical for digital transformation guidance and sustainability recommendations. High-quality information facilitates learning and usage [76], enabling users to timely adjust their daily behaviors toward digital adoption and sustainability practices.

This study defines information quality as the fitness for use or sufficient value provided to information users [77], particularly important for digital transformation and sustainability information that must guide practical implementation. Information quality standards primarily comprise five aspects: credibility, content, disclosure, design, and interactivity [78]. This research focuses on credibility, content, and interactivity—three sub-standard criteria related to expert cognitive credibility in digital transformation and sustainability contexts. Additionally, recent years have seen specific attention to information quality's two-sidedness versus one-sidedness in studying how this sub-standard affects perceived information credibility, particularly relevant for balanced presentation of digital transformation benefits and challenges or sustainability opportunities and costs. In an experimental study, researchers tested the impact of information sources (scientists versus politicians) on credibility dimensions of expertise, integrity, and benevolence when information was two-sided or one-sided. Results indicated that scientists were perceived as more professional and honest than politicians, and both sources were considered more

professional when providing two-sided (rather than one-sided) information [79], findings that likely apply to digital transformation and sustainability experts.

Based on these studies, this research proposes the following hypotheses: H_6 : Higher quality of expert information about digital transformation and sustainability on social media correlates with higher expert trust levels. H_{6a} : Two-sided expert information about digital transformation and sustainability generates higher trust levels compared to one-sided information. H_{6b} : Information accessibility and usability regarding digital transformation and sustainability positively correlate with expert trust.

2.6. Research Model

Based on trust theory, literature review, and research hypotheses, particularly considering the context of digital transformation and sustainability expertise, this study constructs a comprehensive model, as shown in Figure 1.

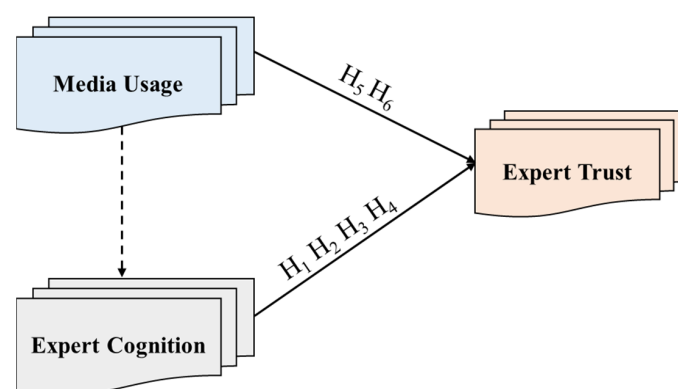


Figure 1. Theoretical Framework and Hypothesized Relationships Among Variables.

The primary dimensions comprise expert cognition and media usage, where expert cognition encompasses four secondary dimensions: professional competence (including digital literacy and sustainability knowledge), expert integrity, expert benevolence (particularly toward digital transformation and sustainability goals), and openness (crucial for stakeholder engagement in digital initiatives). Media usage includes Digital Information Quantity and information quality as secondary dimensions, with Digital Information Quantity referring to public perception of information presentation quantity about digital transformation and sustainability topics, and information quality comprising credibility, content standards, and interactivity indicators specifically related to digital innovation and sustainability information. The interconnections between information credibility, content standards, and interactivity with professional competence, integrity, and openness suggest that perceptions of information quality influence expert cognition, particularly important for complex digital transformation and sustainability topics. This model attempts to capture the multidimensional nature of expert trust and the complex network of factors influencing it, aiming to provide a more comprehensive framework for understanding the dynamics of expert trust in contemporary society, particularly in the context of digital transformation and sustainable development initiatives.

3. Materials and Methods

3.1. Sample and Data Collection

The primary data collection involved a two-pronged approach specifically designed to capture trust dynamics in digital transformation and sustainability contexts:

Digital Transformation-Focused Online Survey: The online survey was conducted from March to September 2024, targeting users of major Chinese social media platforms

where digital transformation and sustainability content is frequently shared: Xiaohongshu, Sina Weibo, and WeChat Moments. A stratified sampling method was employed to ensure representation across key demographic groups with varying levels of exposure to digital transformation initiatives. The survey instrument, developed based on the theoretical framework and existing literature on expert credibility in digital innovation contexts, comprised 16 core items measuring key constructs related to trust in digital transformation and sustainability experts. Of the 862 questionnaires collected, 850 were deemed valid after excluding responses with excessively short or long completion times (<3 min or >30 min) and those exhibiting clear response patterns. This resulted in a high effective response rate of 98.6%. All measurement instruments were carefully designed and validated for this study. Detailed measurement scales, including the Expert Credibility Scale, Trust Intention Scale, and other key instruments, are provided in Appendix A.

The sample demographics demonstrate good diversity in terms of digital literacy and sustainability awareness, aligning reasonably well with the user profiles of the targeted social media platforms. The gender distribution was 57.6% female ($n = 490$) and 42.4% male ($n = 360$). The age distribution covered different generations with varying digital adoption patterns, with 28.4% ($n = 241$) aged 18–25 (digital natives), 42.3% ($n = 360$) aged 26–35 (early digital adopters), 19.6% ($n = 167$) aged 36–45 (digital migrants), and 9.7% ($n = 82$) aged 46 and above (later digital adopters). Educational attainment was diverse and captured varying levels of potential exposure to digital transformation and sustainability education: 60.0% ($n = 510$) held bachelor's degrees, 21.9% ($n = 186$) associate degrees, 10.9% ($n = 93$) postgraduate degrees, and 7.2% ($n = 61$) high school diplomas or below. Occupationally, 53.3% ($n = 453$) were corporate employees (potentially experiencing workplace digital transformation), 25.2% ($n = 214$) students (learning about digital innovation), 11.6% ($n = 99$) professionals (potentially implementing digital transformation), and 9.9% ($n = 84$) freelancers (navigating the gig economy enabled by digital platforms).

Digital Innovation Platform Quasi-Experiment: A quasi-experimental component leveraged Weibo's updated personal certification system (Orange V/Gold V mechanism). This certification upgrade system, designed to improve the visibility and credibility of expert content related to digital transformation and sustainability initiatives, served as a natural intervention in the digital information ecosystem. The certification system operates based on objective quantitative metrics: Orange V certification requires $\geq 300,000$ monthly reads and ≥ 100 loyal fans, while Gold V certification requires ≥ 10 million monthly reads and ≥ 1000 loyal fans, with automatic system upgrades based on user performance data. The study sample was divided into two groups: an experimental group (users who actively engaged with the new digital expert verification feature) and a control group (users who did not engage with the feature). Expert trust levels specifically regarding digital transformation and sustainability experts were measured for both groups at two time points: pre-intervention (April 2024) and post-intervention (June 2024). This design allows for a difference-in-differences (DID) analysis to assess the causal impact of the social media certification upgrade on trust in digital transformation and sustainability expertise.

Secondary Data with Digital Transformation Context (CGSS): To enhance external validity and provide a broader societal context for digital transformation attitudes, the study incorporates data from the Chinese General Social Survey (CGSS) 2021. The CGSS is a nationally representative, comprehensive, and continuous academic survey in China, highly regarded in policy-making and social research. Seven relevant questions from the CGSS (2021) dataset (valid sample size = 8148) were selected, covering socio-demographic attributes (gender, age, education), digital media usage (digital information sources and frequency), and social trust attitudes (general and institutional trust, including trust in technology experts and sustainability advocates). This secondary data allows for cross-

validation of findings about expert trust in digital contexts and helps control for potential sample selection bias in digital transformation perceptions.

3.2. Research Measurement

This study employed a multidimensional measurement approach to operationalize the key constructs related to digital transformation expertise and assess their relationships with trust outcomes. The dependent variable, expert trust in digital transformation and sustainability contexts, was measured using a comprehensive instrument specifically developed for this study to capture the multifaceted nature of trust in these specialized domains. This instrument comprised three distinct, yet interrelated, dimensions particularly relevant to digital transformation: Digital Innovation Trust (DIT), reflecting overall confidence in digital transformation research and development; Digital Transformation Expert Trust (DTET), assessing trust in specific groups of experts within digital innovation and sustainability domains; and Digital Sustainability Advice Trust (DSAT), measuring the willingness to accept and act upon specific digital transformation recommendations or sustainability advice provided by experts. Each dimension was assessed using an 11-point rating scale, ranging from 0 (representing complete distrust in digital transformation expertise) to 10 (indicating complete trust in digital transformation expertise). A composite expert trust score was calculated by averaging the scores across the three dimensions, assigning equal weight to each digital transformation dimension.

Prior to the main data collection, the instrument underwent rigorous pilot testing ($n_1 = 30$, $n_2 = 50$) to ensure its reliability and validity for measuring trust in digital transformation contexts. Detailed reliability and validity assessment information are provided in Appendix C. Results from the pilot tests demonstrated strong internal consistency (Cronbach's $\alpha = 0.89$), composite reliability (CR = 0.92), and average variance extracted (AVE = 0.76). In the main survey ($n = 850$), the overall mean expert trust score for digital transformation experts was 6.82 (SD = 1.56), with mean scores for the individual dimensions as follows: DIT ($M = 7.12$, SD = 1.48), DTET ($M = 6.75$, SD = 1.62), and DSAT ($M = 6.59$, SD = 1.58). Confirmatory Factor Analysis (CFA) further supported the three-dimensional structure of the digital transformation trust instrument, yielding satisfactory fit indices ($\chi^2 = 127.34$, df = 24, $p < 0.001$, CFI = 0.96, RMSEA = 0.048).

The independent variables, representing key antecedents of expert trust in digital transformation contexts, were measured using multi-item scales. Professional Competence in digital transformation, adapted for digital innovation contexts, captured perceptions of experts' digital skills, technical knowledge, innovation qualifications, and capabilities in sustainable technology development. This construct was assessed through six items reflecting professional expertise in digital technologies, practical experience implementing digital transformation, academic reputation in sustainability innovation, and professional qualifications in digital fields. Participants rated each item on a five-point Likert scale (1 = strongly disagree, 5 = strongly agree), with the scale demonstrating good internal consistency ($\alpha = 0.87$, $M = 3.92$, SD = 0.86).

Perceived Expert Integrity in digital contexts, focused on digital ethics, measured the perceived honesty and objectivity of digital transformation experts. It was assessed using three items evaluating experts' objectivity in digital innovation matters and their overall trustworthiness when recommending sustainable technology solutions, also employing a five-point Likert scale (1 = strongly disagree, 5 = strongly agree). This scale exhibited good reliability ($\alpha = 0.85$, $M = 3.78$, SD = 0.92).

Perceived Expert Benevolence in digital transformation, contextualized for sustainability goals, captured the extent to which digital transformation experts were perceived as acting for societal benefit beyond commercial interests. This construct was measured with

three items reflecting perceived warmth and alignment with public sustainability values, using a five-point Likert scale (1 = strongly disagree, 5 = strongly agree) and demonstrating good internal consistency ($\alpha = 0.83$, $M = 3.65$, $SD = 0.94$).

Expert Openness in digital innovation, adapted for digital contexts, reflected digital transformation experts' willingness to engage with the public about technological change and sustainability initiatives. This dimension was assessed using three items measuring social media engagement about digital innovations, willingness to acknowledge different opinions on digital transformation, and transparency in public communication activities about digital transformation, again utilizing a five-point Likert scale (1 = very poor, 5 = very good). The scale showed strong reliability ($\alpha = 0.86$, $M = 3.71$, $SD = 0.89$).

Two key variables related to digital media usage were also included. Digital Information Quantity assessed the perceived prevalence of expert information about digital transformation and sustainability across various social media channels. This was measured using three self-developed items that gauged participants' agreement (1 = strongly disagree, 5 = strongly agree) with statements concerning the frequency of encountering digital transformation expert information on social media, the volume of expert content on sustainable development, and the exposure frequency of expert information on social platforms. This scale demonstrated good reliability ($\alpha = 0.82$, $M = 3.54$, $SD = 0.96$).

Digital Information Quality was measured using a four-item scale, tailored to the Chinese digital transformation context. This scale assessed various aspects of digital information quality, including the high quality of expert content encountered, the accuracy and evidence-based nature of expert information, the persuasiveness of expert content, and the professional presentation of expert information. Participants rated each item on a five-point Likert scale (1 = strongly disagree, 5 = strongly agree), and the scale showed strong internal consistency ($\alpha = 0.88$, $M = 3.69$, $SD = 0.87$).

Finally, the study incorporated several control variables to account for potential confounding influences on digital transformation trust. These included demographic variables such as age (reflecting potential digital generation gaps), gender, and education level (influencing digital literacy), as well as measures of general social trust (obtained from the CGSS data) and digital media literacy (measured using a separate scale). These control variables were included in the regression models to isolate the specific effects of the independent variables on expert trust in digital transformation contexts.

3.3. Research Design

As outlined in Section 3.1, this study adopted a mixed-methods approach, strategically integrating a quantitative survey, a quasi-experimental design, and secondary data analysis. The quantitative survey provided a broad cross-sectional snapshot of the relationships between expert trust, expert cognition, and media usage among social media users in China. The quasi-experiment, leveraging Weibo's updated personal certification system on the major social media platform, allowed for a more causal investigation of the impact of specific platform features on expert trust. By comparing changes in expert trust levels between users who engaged with the new certification upgrade and those who did not, before and after the system's introduction, the study could assess the certification system's effect using a difference-in-differences (DID) approach. The inclusion of secondary data from the Chinese General Social Survey (CGSS) 2021 further strengthened the study by providing a nationally representative benchmark for comparison and enhancing the external validity of the findings. The CGSS data also allowed for the inclusion of broader measures of social trust and media consumption habits, enriching the analysis.

3.4. Data Analysis Methods

This research utilized a series of statistical techniques, implemented in R (version 4.1.0), to analyze the data and address the research questions. Statistical significance was consistently set at $p < 0.05$. Prior to conducting the main analyses, rigorous data screening and assumption checks were performed, including assessments of missing data, outliers, normality, linearity, multicollinearity, and homoscedasticity. Appropriate transformations and data handling techniques were applied where necessary.

3.4.1. Descriptive Statistics and Bivariate Correlations

The analysis began with descriptive statistics (means, standard deviations, frequencies, percentages) to summarize the characteristics of the sample and the distributions of all key variables (expert trust dimensions, expert cognition dimensions, media usage variables, and control variables). This provided an initial overview of the data. Subsequently, Pearson product-moment correlation coefficients (r) were calculated to examine the bivariate relationships between all continuous variables. This provided a preliminary assessment of the associations between expert trust, its potential antecedents, and media usage patterns. The formula for Pearson's r is:

$$r = \frac{\sum (X_i - \bar{X})(Y_i - \bar{Y})}{\sqrt{\sum (X_i - \bar{X})^2 \sum (Y_i - \bar{Y})^2}} \quad (1)$$

where r represents the Pearson correlation coefficient, X_i represents the value of variable X for individual i , Y_i represents the value of variable Y for individual i , $\bar{X}$ represents the mean of variable X , $\bar{Y}$ represents the mean of variable Y .

3.4.2. Measurement Model Validation (CFA)

Confirmatory Factor Analysis (CFA) was employed to rigorously assess the measurement model, specifically the construct validity of the multi-item scales used to measure expert trust and its antecedents. CFA tests the a priori hypothesized factor structure, evaluating how well the observed data fit the theoretical model. Detailed confirmatory factor analysis results are provided in Appendix B. The CFA model is represented as:

$$X = \Lambda \xi + \delta \quad (2)$$

where X represents the vector of observed variables (items on the scales), Λ represents the matrix of factor loadings, meaning the relationship between each observed variable and its corresponding latent factor (e.g., expert credibility, trust intention, Digital Information Quantity, Professional Competence, etc.), ξ represents the vector of latent factors, and δ represents the vector of error terms (measurement error for each observed variable).

Model fit was assessed using multiple indices, including the chi-square statistic (χ^2), degrees of freedom (df), the comparative fit index (CFI), the Tucker–Lewis index (TLI), the root mean square error of approximation (RMSEA), and the standardized root mean square residual (SRMR). Generally accepted cut-off values for good model fit were CFI and TLI ≥ 0.95 , RMSEA ≤ 0.06 , and SRMR ≤ 0.08 . Additionally, convergent validity was assessed by examining the average variance extracted (AVE) for each latent construct (AVE ≥ 0.50 is desirable), and discriminant validity was assessed by comparing the square root of the AVE for each construct with the correlations between that construct and other constructs.

3.4.3. Multiple Regression Analysis

Multiple linear regression was the primary method for examining the relationships between the independent variables (expert cognition dimensions and media usage vari-

ables) and the dependent variable (the composite expert trust score). The general regression equation is:

$$Y_i = \beta_0 + \beta_1 X_{1i} + \beta_2 X_{2i} + \dots + \beta_k X_{ki} + \epsilon_i \quad (3)$$

where Y_i represents the expert trust score for individual i , β_0 represents the intercept (the predicted value of Y when all X variables are 0), $\beta_0 \dots \beta_k$ represent the unstandardized regression coefficients, representing the change in Y associated with a one-unit change in each independent variable $X_1 \dots X_k$, holding all other independent variables constant, $X_{1i} \dots X_{ki}$ represent the values of the independent variables for individual i . These include professional competence, perceived expert integrity, perceived expert benevolence, expert openness, Digital Information Quantity, information quantity and control variables (Age, Gender, Education, General Social Trust, Media Literacy); ϵ_i represents the error term for individual i , meaning the unexplained variance in Y .

Separate regression models were estimated to test the main effects of the expert cognition dimensions and the media usage variables. Hierarchical regression was then used to test for potential interaction effects (moderation), introducing interaction terms (e.g., the product of Professional Competence and Information Quality) to assess whether the relationships between specific independent variables and expert trust were contingent on the levels of other variables.

3.4.4. Mediation Analysis

To test the hypothesis that exposure to expert information mediates the relationship between social media use and expert trust, a mediation analysis was conducted using the bootstrapping method. This approach is robust to violations of normality assumptions and provides more accurate confidence intervals for the indirect effect. The mediation model is represented by the following equations:

Equation for the mediator (M): Exposure to expert information

$$M_i = \alpha_1 + aX_i + \epsilon_{1i} \quad (4)$$

Equation for the dependent variable (Y): Expert Trust

$$Y_i = \alpha_2 + c'X_i + bM_i + \epsilon_{2i} \quad (5)$$

where Y_i represents the expert trust score for individual i , X_i represents the social media use for individual i . M_i represents the exposure to expert information for individual i . α represents the path coefficient representing the effect of X on M , b represents the path coefficient representing the effect of M on Y , controlling for X , and c' represents the path coefficient representing the direct effect of X on Y , controlling for M . α_1 and α_2 represent the intercepts; ϵ_{1i} and ϵ_{2i} represent the error terms.

The indirect effect (mediation effect), representing the extent to which social media use influences expert trust through exposure to expert information, is calculated as the product of a and b ($a \times b$). Bootstrapping (with 5000 resamples) was used to estimate the 95% confidence intervals for the indirect effect. If the confidence interval does not include zero, the mediation effect is considered statistically significant.

3.4.5. Difference-in-Differences (DID) Analysis

To evaluate the causal impact of the social media platform's certification upgrade on expert trust, a difference-in-differences (DID) analysis was employed. This quasi-experimental design compares the changes in expert trust over time between a treatment

group (users who actively engaged with the new certification system) and a control group (users who did not engage with the feature). The DID model is:

$$Y_{it} = \beta_0 + \beta_1 \text{Treat}_i + \beta_2 \text{Post}_t + \beta_3 (\text{Treat}_i \times \text{Post}_t) + \gamma X_{it} + \epsilon_{it} \quad (6)$$

where Y_{it} represents the expert trust score for individual i at time t , Treat_i represents the dummy variable (1 = treatment group, 0 = control group), Post_t represents the dummy variable (1 = post-intervention period, 0 = pre-intervention period), $\text{Treat}_i \times \text{Post}_t$ represents the interaction term (the DID estimator). β_3 represents the DID estimator, meaning the average treatment effect on the treated (ATT). This is the key coefficient of interest, capturing the difference in the change in expert trust between the treatment and control groups. A statistically significant and positive β_3 would indicate that the certification upgrade had a positive causal impact on expert trust. X_{it} represents a vector of time-varying and time-invariant control variables (e.g., demographics, baseline expert trust, pre-intervention media usage), and ϵ_{it} represents the error term.

The DID analysis was crucial for establishing a causal link between the platform's certification system and changes in expert trust. The parallel trends assumption, fundamental to the DID design, was carefully assessed. Graphical inspection of pre-intervention trends in expert trust for both the treatment and control groups provided visual evidence. Additionally, a formal statistical test was conducted by regressing pre-intervention expert trust levels on the treatment group indicator and time dummies. A non-significant coefficient on the interaction term in this pre-intervention regression would lend support to the parallel trends' assumption. Robust standard errors were used in all DID estimations to account for potential serial correlation within individuals over time.

In summary, this study employed a comprehensive analytical strategy to thoroughly investigate the complex interplay between social media use, expert cognition, and expert trust. (1) Descriptive statistics and bivariate correlations provided a foundational understanding of the sample and the relationships among key variables. (2) Confirmatory Factor Analysis (CFA) established the psychometric properties of the measurement instruments, ensuring that the constructs were measured reliably and validly. (3) Multiple regression analysis allowed for the examination of the direct effects of expert cognition and media usage on expert trust, while controlling for potential confounding factors. (4) Mediation analysis provided insights into the underlying mechanisms, testing whether exposure to expert information mediated the relationship between social media use and trust. (5) Finally, Difference-in-Differences (DID) analysis provided a rigorous, quasi-experimental assessment of the causal impact of the specific social media platform certification system on expert trust. By integrating these five complementary analytical approaches, the study aimed to provide robust and nuanced findings, contributing to a deeper understanding of expert trust in the evolving digital landscape. The use of both cross-sectional survey data and longitudinal quasi-experimental data, combined with secondary data validation, strengthens the internal and external validity of the conclusions.

4. Results

4.1. Descriptive Analysis of Digital Transformation Expert Trust

4.1.1. Overall Level of Expert Trust in Digital Transformation Context

The descriptive analysis reveals a moderately positive but nuanced trust landscape toward digital transformation experts among Chinese social media users. The overall mean expert trust score was 6.82 (SD = 1.56) on an 11-point scale (0–10), indicating generally favorable attitudes toward digital transformation experts but with substantial room for improvement. Examining the three dimensions of expert trust separately reveals an

interesting pattern: Digital Innovation Trust (DIT) scored highest ($M = 7.12$, $SD = 1.48$), followed by Digital Transformation Expert Trust (DTET) ($M = 6.75$, $SD = 1.62$), and Digital Sustainability Advice Trust (DSAT) scored lowest ($M = 6.59$, $SD = 1.58$). This hierarchical pattern suggests that while respondents generally trust the digital transformation research enterprise, they show slightly more reservation toward specific expert groups and are most cautious about following expert advice on digital sustainability issues.

Figure 2 shows the distribution of responses across the three trust dimensions, revealing a notable right-skewed pattern for all dimensions, with the majority of respondents positioning themselves in the mid-to-high trust range (6–8). Particularly noteworthy is the bimodal distribution for Digital Sustainability Advice Trust, with peaks at both moderate (5–6) and high (8–9) trust levels, suggesting possible polarization in attitudes toward expert sustainability advice.

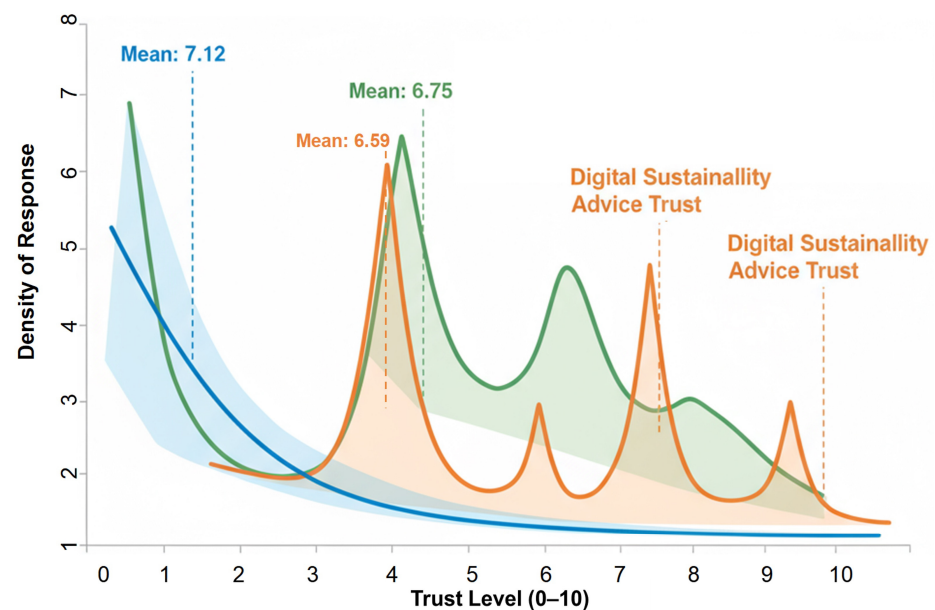


Figure 2. Distribution of Trust Scores Across Three Digital Expert Trust Dimensions.

Demographic analysis reveals significant variation in digital transformation expert trust across population segments, as shown in Table 2.

Table 2. Expert Trust Scores by Demographic Characteristics.

Demographic Variable	Category	<i>n</i>	Mean	SD	Statistical Test
Gender	Male	360	6.78	1.58	$t(848) = 0.65, p = 0.519$
	Female	490	6.85	1.55	
Age	18–25	241	7.21	1.42	$F(3, 846) = 11.74, p < 0.001$
	26–35	360	6.86	1.54	
	36–45	167	6.58	1.61	
	46+	82	6.34	1.68	
Education	High school or below	61	6.35	1.72	$F(3, 846) = 8.92, p < 0.001$
	Associate degree	186	6.61	1.63	
	Bachelor's degree	510	6.84	1.54	
	Postgraduate degree	93	7.28	1.39	
Occupation	Corporate employee	453	6.79	1.57	$F(3, 846) = 5.38, p = 0.001$
	Student	214	7.12	1.47	
	Professional	99	6.68	1.64	
	Freelancer	84	6.53	1.58	

Younger respondents (18–25) showed significantly higher trust levels in digital transformation experts ($M = 7.21$, $SD = 1.42$) compared to those aged 46 and above ($M = 6.34$, $SD = 1.68$), $t(321) = 4.63$, $p < 0.001$, suggesting a generational gap in digital expert trust. Educational differences were also evident, with postgraduate degree holders showing higher trust ($M = 7.28$, $SD = 1.39$) compared to those with high school education or below ($M = 6.35$, $SD = 1.72$), $F(3, 846) = 8.92$, $p < 0.001$. Interestingly, gender differences were minimal (Male: $M = 6.78$, $SD = 1.58$; Female: $M = 6.85$, $SD = 1.55$), $t(848) = 0.65$, $p = 0.519$, indicating that gender plays a less significant role in shaping trust toward digital transformation experts compared to age and education.

4.1.2. Digital Media Use and Exposure to Expert Information

Analysis of digital media use patterns reveals that respondents spend an average of 3.24 h ($SD = 1.86$) per day on social media platforms, with significant portions dedicated to content related to digital innovation ($M = 58.4$ min/day, $SD = 42.3$) and sustainability ($M = 43.7$ min/day, $SD = 38.6$). The primary platforms for accessing expert content were WeChat (74.8%), followed by Sina Weibo (65.3%), Xiaohongshu (53.2%), and Zhihu (47.6%).

Exposure to digital transformation expert content showed considerable variation. On average, respondents reported encountering digital transformation expert opinions approximately 14.3 times per week ($SD = 9.8$). However, the perceived quality of this content varied significantly, with respondents rating digital information quality at an average of 3.69 ($SD = 0.87$) on a 5-point scale, suggesting moderate satisfaction with the quality of digital transformation expert content they encounter.

4.1.3. Bivariate Correlations Between Key Variables

Table 3 presents the bivariate correlations between all key variables in the study. Several noteworthy patterns emerged. Firstly, all four dimensions of expert cognition—digital professional competence ($r = 0.68$, $p < 0.001$), perceived digital expert integrity ($r = 0.71$, $p < 0.001$), perceived digital expert benevolence ($r = 0.64$, $p < 0.001$), and digital expert openness ($r = 0.59$, $p < 0.001$)—showed strong positive correlations with overall expert trust, supporting our hypothesized relationships. Secondly, the correlation between Digital Information Quantity and expert trust ($r = 0.63$, $p < 0.001$) was substantially stronger than the correlation between digital information quantity and expert trust ($r = -0.28$, $p < 0.001$), the latter being negative. This suggests that the quality of expert information has a more significant positive impact on trust than the quantity, which appears to have a modest negative relationship with trust.

Table 3. Correlation Matrix of Key Study Variables.

Variable	1	2	3	4	5	6	7	8	9
1. Expert Trust (Overall)	1								
2. Digital Innovation Trust	0.89 **	1							
3. Digital Transformation Expert Trust	0.92 **	0.75 **	1						
4. Digital Sustainability Advice Trust	0.86 **	0.65 **	0.70 **	1					
5. Digital Professional Competence	0.68 **	0.64 **	0.62 **	0.56 **	1				
6. Perceived Digital Expert Integrity	0.71 **	0.63 **	0.69 **	0.60 **	0.63 **	1			
7. Perceived Digital Expert Benevolence	0.64 **	0.57 **	0.59 **	0.58 **	0.51 **	0.59 **	1		
8. Digital Expert Openness	0.59 **	0.52 **	0.54 **	0.55 **	0.48 **	0.47 **	0.53 **	1	
9. Digital Information Quantity	−0.28 **	−0.24 **	−0.29 **	−0.26 **	−0.14 *	−0.31 **	−0.23 **	−0.08	1

Note: * $p < 0.05$, ** $p < 0.01$.

Thirdly, examining the relationships among the three dimensions of digital transformation expert trust, the strongest correlation was observed between Digital Transformation Expert Trust and overall Expert Trust ($r = 0.92$, $p < 0.001$), followed by Digital Innovation Trust ($r = 0.89$, $p < 0.001$) and Digital Sustainability Advice Trust ($r = 0.86$, $p < 0.001$). This

pattern suggests that trust in specific digital transformation expert groups plays the most central role in shaping overall trust in digital transformation expertise.

4.2. Hypothesis Testing: Factors Influencing Digital Transformation Expert Trust

4.2.1. Main Effects of Expert Credibility Dimensions on Trust

To test our hypotheses about the factors influencing expert trust, we conducted a series of multiple regression analyses. Table 4 presents the results of these analyses, with Model 1 including only control variables, Model 2 adding the four dimensions of expert cognition, Model 3 adding the two media usage variables, and Model 4 representing the full model with all variables.

Table 4. Multiple Regression Predicting Digital Transformation Expert Trust.

Variable	Model 1	Model 2	Model 3	Model 4
Control Variables				
Age	−0.16 **	−0.08 *	−0.10 *	−0.07 *
Gender (Female = 1)	0.05	0.02	0.04	0.02
Education	0.14 **	0.06	0.10 *	0.05
General Social Trust	0.21 ***	0.08 *	0.12 **	0.06
Digital Media Literacy	0.17 **	0.07 *	0.11 *	0.06
Expert Cognition				
Digital Professional Competence	/	0.25 ***	/	0.21 ***
Perceived Digital Expert Integrity	/	0.31 ***	/	0.27 ***
Perceived Digital Expert Benevolence	/	0.22 ***	/	0.19 ***
Digital Expert Openness	/	0.16 **	/	0.14 **
Media Usage				
Digital Information Quantity	/	/	−0.24 ***	−0.18 ***
Digital Information Quality	/	/	0.48 ***	0.25 ***
R ²	0.14	0.67	0.49	0.72
Adjusted R ²	0.13	0.66	0.48	0.71
ΔR ²	/	0.53 ***	0.35 ***	0.58 ***
F	27.42 ***	171.76 ***	136.08 ***	195.74 ***

Note: Standardized regression coefficients (β) are reported. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

The results in Model 4 support our hypotheses regarding the influence of expert cognition dimensions on trust. Digital Professional Competence ($\beta = 0.21$, $p < 0.001$), Perceived Digital Expert Integrity ($\beta = 0.27$, $p < 0.001$), Perceived Digital Expert Benevolence ($\beta = 0.19$, $p < 0.001$), and Digital Expert Openness ($\beta = 0.14$, $p < 0.01$) all positively predicted expert trust, supporting Hypotheses H₁, H₂, H₃, and H₄. Among these dimensions, Perceived Digital Expert Integrity emerged as the strongest predictor, suggesting that perceptions of digital transformation experts' honesty, objectivity, and adherence to professional standards are particularly crucial in fostering trust.

The results also support our hypotheses regarding media usage. Digital Information Quantity negatively predicted expert trust ($\beta = -0.18$, $p < 0.001$), supporting Hypothesis H₅, while Digital Information Quality positively predicted expert trust ($\beta = 0.25$, $p < 0.001$), supporting Hypothesis H₆. These findings suggest that mere exposure to large volumes of digital transformation expert content may undermine trust, possibly due to information overload or exposure to contradictory expert opinions. In contrast, high-quality information about digital transformation and sustainability significantly enhances trust.

The full model explained a substantial 72% of the variance in expert trust (Adjusted R² = 0.71), indicating that our framework captures the majority of factors influencing trust in digital transformation experts among Chinese social media users.

4.2.2. Sub-Dimensional Analysis of Expert Credibility Factors

To test our more specific sub-hypotheses, we conducted additional analyses focusing on particular aspects of the main constructs. Table 5 presents the results of these analyses.

Table 5. Regression Results for Sub-hypotheses.

Hypothesis	Variable	β	t	p	Result
H _{1a}	Depth and Breadth of Digital Knowledge	0.29	8.75	<0.001	Supported
H _{1b}	Digital Domain Experience	0.23	6.94	<0.001	Supported
H _{2a}	Digital Expert Independence	0.32	9.63	<0.001	Supported
H _{2b}	Scientific Rigor in Digital Claims	0.26	7.88	<0.001	Supported
H _{3a}	Digital Expert-Public Value Alignment	0.28	8.32	<0.001	Supported
H _{3b}	Digital Expert Consensus	0.19	5.58	<0.001	Supported
H _{4a}	Digital Expert Willingness to Listen	0.21	6.31	<0.001	Supported
H _{4b}	Disclosure of Digital Research Processes	0.18	5.47	<0.001	Supported
H _{5a}	Digital Expert Information in News Media	−0.22	−6.59	<0.001	Supported
H _{5b}	UGC about Digital Experts	−0.25	−7.46	<0.001	Supported
H _{6a}	Two-Sided Digital Expert Information	0.27	8.16	<0.001	Supported
H _{6b}	Digital Information Accessibility	0.24	7.18	<0.001	Supported

Note: Each row represents a separate regression analysis controlling for age, gender, education, general social trust, and digital media literacy.

All sub-hypotheses were supported. For Digital Professional Competence, both depth and breadth of knowledge ($\beta = 0.29$, $p < 0.001$) and domain experience ($\beta = 0.23$, $p < 0.001$) significantly predicted trust. For Perceived Digital Expert Integrity, both independence from external influences ($\beta = 0.32$, $p < 0.001$) and scientific rigor ($\beta = 0.26$, $p < 0.001$) were significant predictors. For Perceived Digital Expert Benevolence, value alignment with the public ($\beta = 0.28$, $p < 0.001$) and expert consensus ($\beta = 0.19$, $p < 0.001$) both positively predicted trust. For Digital Expert Openness, willingness to listen ($\beta = 0.21$, $p < 0.001$) and disclosure of research processes ($\beta = 0.18$, $p < 0.001$) were significant positive predictors.

Regarding media usage, expert information in news media ($\beta = -0.22$, $p < 0.001$) and user-generated content about digital experts ($\beta = -0.25$, $p < 0.001$) negatively predicted trust. This suggests that high visibility of digital transformation experts in both traditional media and user-generated content may contribute to lower trust levels, potentially due to increased scrutiny, criticism, or exposure to conflicting opinions. For Digital Information Quality, both two-sided information presentation ($\beta = 0.27$, $p < 0.001$) and information accessibility ($\beta = 0.24$, $p < 0.001$) positively predicted trust, indicating that balanced perspectives and user-friendly presentation of digital transformation expertise enhance public trust.

Figure 3 shows the relative strengths of these relationships, highlighting the particularly strong effects of expert independence, depth of knowledge, and value alignment with the public on trust in digital transformation experts.

4.2.3. Mediation Pathways: Digital Media Use and Information Exposure

To better understand the mechanisms through which media usage affects trust in digital transformation experts, we conducted a mediation analysis testing whether exposure to digital expert information mediates the relationship between digital media use and expert trust. Figure 4 presents the results of this analysis.

The analysis revealed that digital media use had a significant positive effect on exposure to digital expert information ($a = 0.42$, $SE = 0.04$, $p < 0.001$), and exposure to digital expert information had a significant negative effect on expert trust ($b = -0.31$, $SE = 0.04$, $p < 0.001$). The indirect effect of digital media use on expert trust through exposure to expert information was negative and significant ($a \times b = -0.13$, 95% CI $[-0.17, -0.09]$), indicating partial mediation. The direct effect of digital media use on expert trust, controlling for

exposure to expert information, was also negative but smaller in magnitude ($c' = -0.09$, $SE = 0.04$, $p = 0.023$).

These findings suggest that while digital media use has a modest direct negative effect on trust in digital transformation experts, a substantial portion of this effect is mediated through increased exposure to digital expert information. This creates a paradoxical situation where digital media use increases exposure to expert information, but this increased exposure is associated with lower trust levels. This may reflect information overload, exposure to contradictory expert opinions, or increased awareness of expert disagreements in the digital transformation domain.

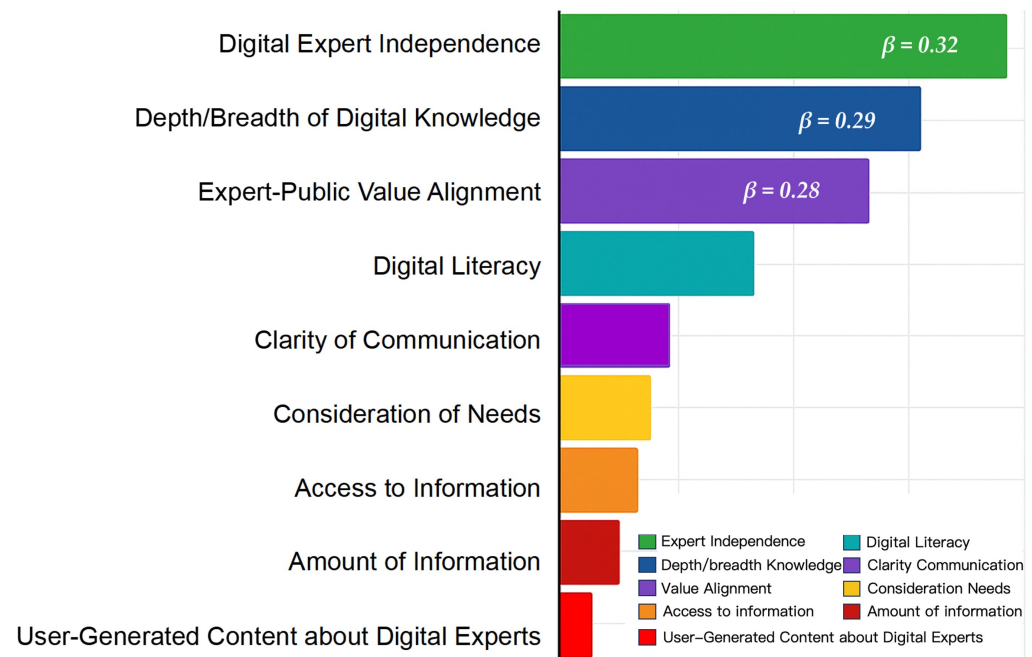


Figure 3. Relative Impact of Specific Indicators on Digital Transformation Expert Trust.

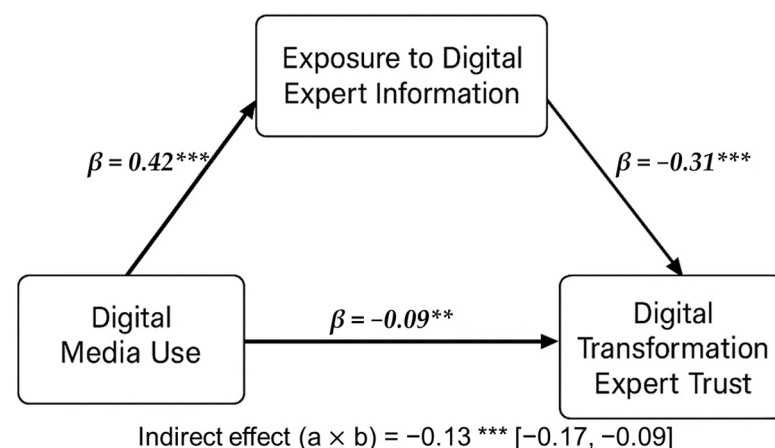


Figure 4. Mediation Model of Digital Media Use, Expert Information Exposure, and Trust. Note: ** $p < 0.01$, *** $p < 0.001$.

4.2.4. Causal Impact of the Digital Expert Verification Feature

The quasi-experimental component of our study examined the causal impact of Weibo's updated personal certification system introduced on the major Chinese social media platform. This certification upgrade system, which verified the credentials and expertise of users providing content on digital transformation and sustainability, repre-

sented a potential intervention to enhance expert trust. Table 6 presents the results of the difference-in-differences (DID) analysis.

Table 6. Difference-in-Differences Analysis of Digital Expert Verification Feature.

Group	Pre-Intervention (April 2024)	Post-Intervention (June 2024)	Difference
Treatment ($n = 213$)	6.78 (1.57)	7.46 (1.32)	0.68 (0.19)
Control ($n = 206$)	6.81 (1.54)	6.92 (1.49)	0.11 (0.15)
Difference-in-Differences	/	/	0.57 ** (0.21)

Note: Cell entries are means with standard deviations in parentheses. The difference-in-differences estimate includes standard error in parentheses. ** $p < 0.01$.

The DID analysis revealed a significant positive effect of the expert certification system on trust in digital transformation experts (DID estimate = 0.57, SE = 0.21, $p = 0.006$). While both groups showed some increase in trust from pre- to post-intervention, the increase was substantially larger in the treatment group (0.68 points) compared to the control group (0.11 points). This suggests that technological interventions that help users identify credible digital transformation experts can causally enhance trust. Figure 5 shows the differential change in trust between the treatment and control groups over time, clearly illustrating the positive impact of the certification system.

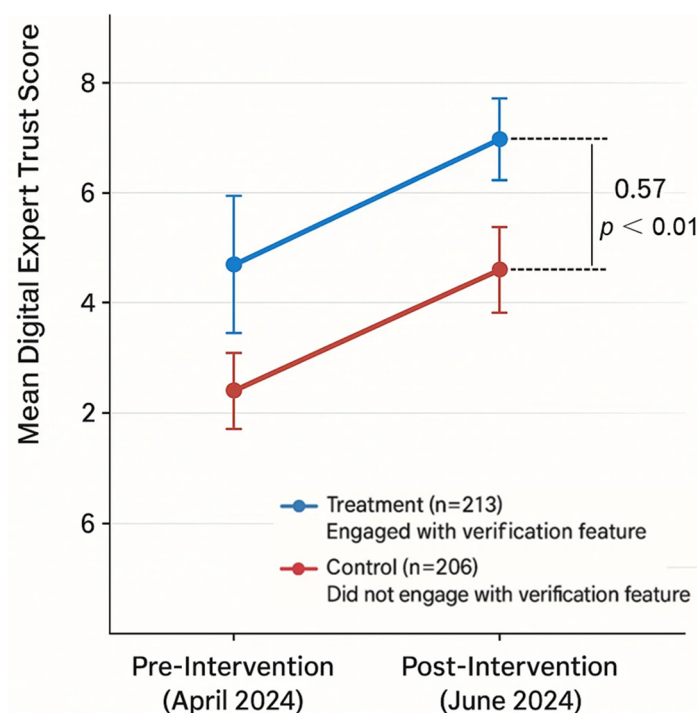


Figure 5. Change in Digital Expert Trust Before and After Verification Feature Implementation.

Additional regression analyses controlling for demographic factors, baseline trust levels, and social media usage patterns confirmed the robustness of these findings (adjusted DID estimate = 0.52, SE = 0.20, $p = 0.01$).

4.3. Integrated Model of Digital Transformation Expert Trust

Based on our comprehensive analyses, we developed an integrated structural equation model (SEM) that captures the complex relationships between all key variables in our study.

The model was estimated using maximum likelihood estimation with robust standard errors. Figure 6 presents this integrated model with standardized path coefficients.

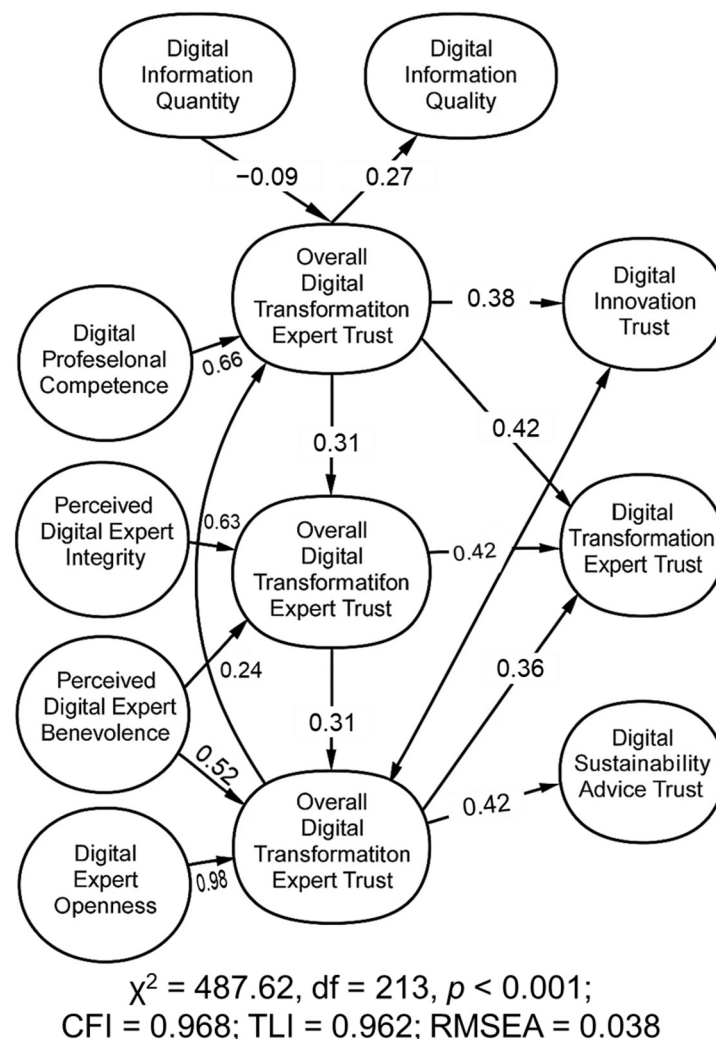


Figure 6. Integrated Structural Equation Model of Digital Transformation Expert Trust.

The model demonstrates excellent fit to the data ($\chi^2 = 487.62$, $df = 213$, $p < 0.001$; CFI = 0.968; TLI = 0.962; RMSEA = 0.038, 90% CI [0.034, 0.043]; SRMR = 0.035), suggesting that it accurately captures the underlying structure of relationships. All pathways shown in the model are significant at $p < 0.05$. The model explains 76% of the variance in overall digital transformation expert trust.

Several key pathways emerge in this integrated model. Firstly, the path from Perceived Digital Expert Integrity to Expert Trust is the strongest (0.31), confirming our earlier finding that integrity is the most crucial dimension of expert cognition. Secondly, the model reveals significant indirect pathways, such as the pathway from Digital Information Quality through Perceived Digital Expert Integrity to Expert Trust ($0.27 \times 0.31 = 0.084$), suggesting that high-quality information enhances perceptions of expert integrity, which in turn boosts trust.

The model also confirms the negative relationship between Digital Information Quantity and Expert Trust, both directly (-0.15) and indirectly through reduced perceptions of expert integrity ($-0.23 \times 0.31 = -0.071$). This reinforces our finding that mere exposure to large volumes of digital transformation expert content may undermine trust, particularly by reducing perceptions of expert integrity.

The model reveals different patterns of relationships for the three dimensions of expert trust. Digital Innovation Trust is most strongly influenced by Digital Professional Competence (0.38), while Digital Transformation Expert Trust is most strongly influenced by Perceived Digital Expert Integrity (0.42), and Digital Sustainability Advice Trust is most strongly influenced by Perceived Digital Expert Benevolence (0.35). This suggests that different cognitive dimensions may be more important for different aspects of expert trust in the digital transformation context. To address potential concerns about selection bias in our DID analysis, we conducted comprehensive robustness checks as summarized in Table 7.

Table 7. Robustness Checks for DID Analysis Results.

Robustness Check Method	Coefficient	SE	<i>p</i> -Value	95% CI	<i>n</i>
Baseline DID Model	0.57	0.21	0.007	[0.16, 0.98]	419
PSM-Matched DID	0.52	0.19	0.006	[0.15, 0.89]	384
Placebo Test (t-3)	0.13	0.18	0.47	[−0.22, 0.48]	419
Placebo Test (t-6)	0.08	0.16	0.615	[−0.23, 0.39]	419
Event Study (Pre-trend)	0.03	0.15	0.841	[−0.26, 0.32]	419

We conducted formal parallel trends testing through event study analysis, examining trust level changes in the six months preceding the certification upgrade. The pre-intervention coefficient (0.03, $p = 0.841$) indicates no significant differential trends between treatment and control groups, supporting the parallel trends assumption fundamental to DID analysis. The propensity score matching (PSM) approach, based on user activity patterns, content engagement, and follower characteristics, yielded consistent results (0.52, $p = 0.006$). Placebo tests using false intervention dates showed no significant effects, further supporting the validity of our causal interpretation. The consistency across these multiple robustness checks strengthens confidence in our finding that Weibo’s expert certification system causally enhanced trust.

4.4. Differential Impact of Digital Information Sources

To further understand how different sources of digital transformation expert information affect trust, we conducted additional analyses comparing the effects of information from various digital channels. Table 8 presents the results of these analyses.

Table 8. Impact of Different Digital Information Sources on Expert Trust.

Information Source	Mean Exposure (1–5)	Correlation with Expert Trust	Regression Coefficient (β)
Government digital platforms	3.42 (1.14)	0.36 ***	0.24 ***
Academic institution websites	3.65 (1.08)	0.42 ***	0.29 ***
Professional digital media	3.78 (0.98)	0.38 ***	0.26 ***
Corporate digital channels	3.24 (1.12)	−0.08 *	−0.05
Independent digital experts	3.47 (1.05)	0.32 ***	0.21 ***
Self-media (bloggers, influencers)	3.89 (0.92)	−0.23 ***	−0.19 ***
User-generated comments	4.12 (0.87)	−0.28 ***	−0.22 ***

Note: Mean exposure measured on 5-point scale (1 = very low, 5 = very high). Regression coefficients from models controlling for age, gender, education, general social trust, and digital media literacy. * $p < 0.05$, *** $p < 0.001$.

The results reveal substantial variation in how different information sources affect trust in digital transformation experts. Information from academic institutions showed

the strongest positive relationship with expert trust ($\beta = 0.29, p < 0.001$), followed by professional digital media ($\beta = 0.26, p < 0.001$) and government digital platforms ($\beta = 0.24, p < 0.001$). In contrast, user-generated comments ($\beta = -0.22, p < 0.001$) and self-media content from bloggers and influencers ($\beta = -0.19, p < 0.001$) showed significant negative relationships with expert trust.

These findings suggest that institutional sources generally enhance trust in digital transformation experts, while user-generated and influencer content may undermine trust. Corporate digital channels showed no significant relationship with expert trust in the regression model ($\beta = -0.05, p = 0.218$), despite a small negative bivariate correlation ($r = -0.08, p = 0.026$). This suggests that when controlling for other factors, corporate sources neither significantly enhance nor diminish trust in digital transformation experts.

Figure 7 shows these differential effects, highlighting the clear contrast between institutional and non-institutional sources of digital transformation expert information.

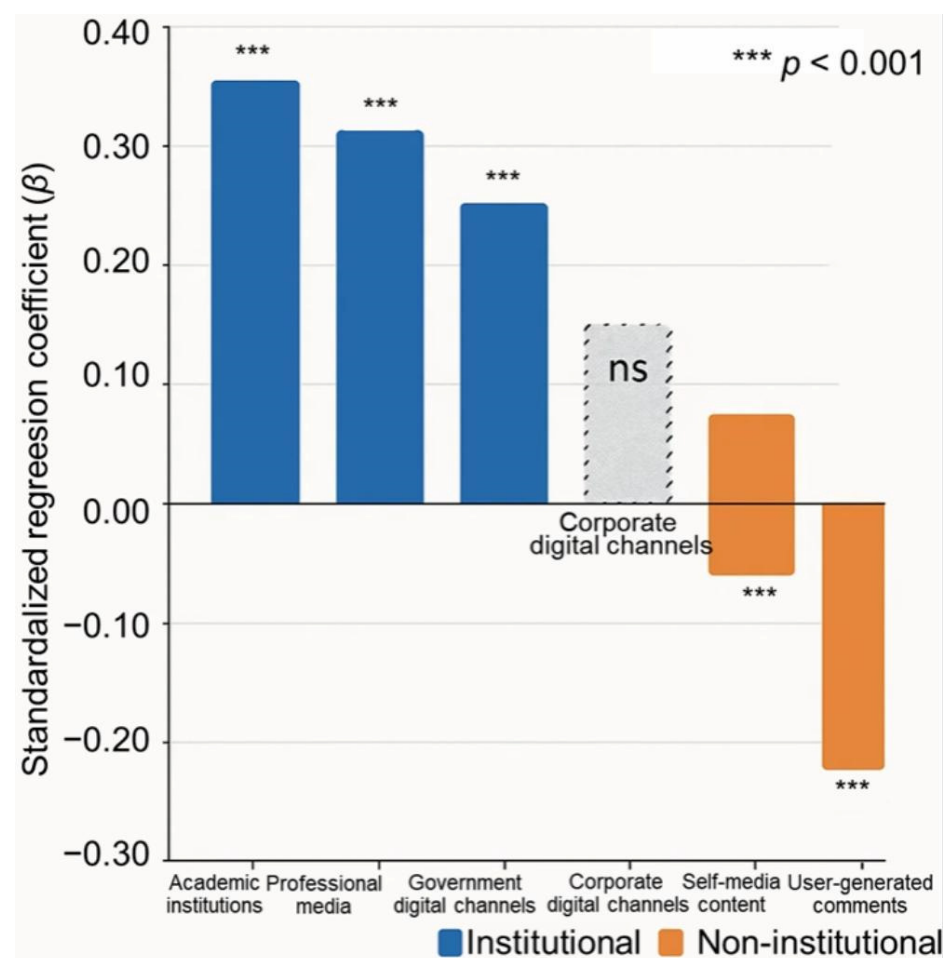


Figure 7. Effects of Different Digital Information Sources on Expert Trust.

5. Discussion

5.1. Interpreting the Trust Landscape in Digital Transformation Context

Our findings reveal a nuanced trust landscape regarding digital transformation experts among Chinese social media users. The moderate overall trust level ($M = 6.82, SD = 1.56$) aligns with previous research suggesting neither blanket acceptance nor complete rejection of expert authority in contemporary society. However, the varying levels of trust across different dimensions—with Digital Innovation Trust scoring highest ($M = 7.12$) and Digital Sustainability Advice Trust scoring lowest ($M = 6.59$)—reveal important distinctions that ex-

tend beyond previous conceptualizations of expert trust as a unidimensional construct. This pattern suggests that the public distinguishes between trust in the digital transformation research enterprise broadly and trust in specific expert recommendations for sustainable action, reflecting the “value-action gap” identified in sustainability research [80].

The hierarchical nature of these trust dimensions provides empirical support for the theoretical distinction between epistemic trust (trust in knowledge production) and practical trust (trust in action guidance). In the context of digital transformation, this distinction is particularly meaningful, as users may acknowledge experts’ technical knowledge while remaining skeptical about specific recommendations that require behavioral changes or resource investments [81]. This finding extends research on expert credibility by demonstrating that in the digital transformation domain, credibility judgments are multi-layered and context-specific rather than uniform.

The demographic variations in trust levels reveal complex and potentially contradictory patterns that challenge simplistic generational stereotypes about expertise evaluation. While our findings demonstrate higher trust among younger and more educated respondents, aligning with established research on scientific trust, this pattern contradicts some research that shows younger generations are increasingly skeptical of institutional authority [82]. Our findings suggest that in the digital transformation context, the “digital native” generation may exhibit greater trust in digital experts precisely because digital technologies are more integrated into their lived experiences and worldviews. This generational pattern could indicate a fundamental shift in how expertise is perceived as societies undergo digital transformation, with traditional age-based skepticism potentially being reversed in technology domains.

However, the “digital native” hypothesis requires critical examination. The assumption that digital integration enhances expert trust fails to account for the “techno-skepticism paradox” [83], wherein greater technological familiarity correlates with increased awareness of digital manipulation and bias, potentially reducing rather than enhancing expert credibility. Cross-cultural research demonstrates significant variation in generational trust patterns across different digital transformation domains, with younger respondents showing higher trust in consumer-facing technologies but lower trust in institutional digital transformation initiatives. This domain-specific variation suggests that age-based trust patterns are more complex than generational theories predict, requiring nuanced analysis that considers technological context, institutional framing, and cultural factors [84].

5.2. Expert Cognition Dimensions and Their Differential Impact

Our regression analyses revealed that all four dimensions of expert cognition—professional competence, integrity, benevolence, and openness—significantly predict trust in digital transformation experts, supporting our hypotheses (H₁–H₄). This multi-dimensional influence aligns with previous research on expert credibility but with notable differences in the relative importance of each dimension.

The emergence of integrity as the strongest predictor of trust ($\beta = 0.27, p < 0.001$) provides important empirical validation for theoretical perspectives emphasizing the moral dimensions of expertise. In the digital transformation context, this finding takes on particular significance given the ethical concerns surrounding digital technologies, from privacy issues to algorithmic bias and environmental impacts. The public appears to prioritize perceived honesty, independence, and adherence to ethical standards when evaluating digital transformation experts, suggesting that technical competence alone is insufficient for establishing trust in this domain.

The significant contribution of benevolence ($\beta = 0.19, p < 0.001$) to expert trust extends research on the “warmth” dimension of social cognition by demonstrating its relevance

in technological contexts often characterized as impersonal or technocratic. This finding suggests that digital transformation experts who demonstrate concern for public welfare and alignment with societal values may overcome some of the alienation or distrust associated with rapid technological change. Research indicates that technological expertise that fails to address human concerns or values risks rejection regardless of its technical merit [85,86].

The positive influence of openness ($\beta = 0.14, p < 0.01$), though smaller in magnitude than other dimensions, supports calls for more dialogic models of expert-public communication in technological domains. This finding suggests that digital transformation experts who engage with public perspectives and communicate transparently about research processes may build trust more effectively than those who adopt traditional top-down communication approaches [87]. In the rapidly evolving field of digital transformation, where uncertainties abound and implications can be far-reaching, such openness may be especially valuable for maintaining public trust.

5.3. The Paradox of Digital Media Exposure and Expert Trust

Our most significant finding concerns the relationship between media usage and expert trust. The negative association between digital information quantity and trust ($\beta = -0.18, p < 0.001$) supports H₅ and aligns with concerns about information overload in digital environments. However, it challenges traditional assumptions that greater exposure to expert information should enhance familiarity and trust. This “digital exposure paradox” suggests that in social media environments, the sheer volume of expert information—often presented in fragmented, decontextualized, or contradictory ways—may actually undermine rather than enhance trust. The rapid proliferation of competing claims and counter-claims on digital platforms can create cognitive dissonance and uncertainty [88]. The algorithmic amplification of sensationalized or controversial content may disproportionately expose users to contested expert opinions rather than consensus views.

The significant positive association between digital information quality and trust ($\beta = 0.25, p < 0.001$) supports H₆ and underscores the importance of how expert information is presented, not just how much is presented. This finding extends research on information quality by demonstrating its crucial role in the specific context of digital transformation expertise. The particularly strong effect of two-sided information presentation ($\beta = 0.27, p < 0.001$) aligns with research suggesting that acknowledging multiple perspectives enhances perceived credibility and may be especially relevant in digital transformation contexts where benefits, risks, and uncertainties coexist.

Our findings on differential impacts of information sources further illuminate this complex relationship. The positive associations between institutional sources (academic, professional media, government) and expert trust contrast strongly with the negative associations between non-institutional sources (self-media, user-generated content) and trust. This pattern suggests that institutional authority continues to matter in digital environments, despite concerns about the democratization of knowledge and the “death of expertise” [89]. For digital transformation experts, maintaining institutional affiliations and leveraging institutional channels may help preserve trust despite the challenges of social media environments.

The effectiveness of the expert certification system in enhancing trust (DID estimate = 0.57, $p < 0.01$) demonstrates that technological solutions can help address the trust challenges created by digital media itself. This finding supports theoretical perspectives suggesting that digital platforms can be designed to enhance rather than undermine epistemic quality. For digital transformation initiatives, such certification mechanisms may help bridge

the gap between traditional expert authority and the more fragmented, democratized information landscape of social media.

5.4. *The Theoretical Implications and Contributions*

This study makes several important theoretical contributions to understanding expert trust in the digital transformation era. We advance the conceptualization of expert trust by empirically demonstrating its multi-dimensional nature, with distinct patterns of antecedents for different trust dimensions. This extends previous research by showing that trust in digital transformation experts involves not just judgments about knowledge accuracy (epistemic trust) but also about practical guidance (pragmatic trust) and values alignment (normative trust).

Our findings challenge simplistic narratives about the “crisis of expertise” by revealing a more nuanced landscape where trust varies by expert type, information source, and trust dimension [90]. Rather than a uniform decline in expert authority, we observe a reconfiguration where certain forms of expertise (particularly those associated with established institutions) maintain considerable trust despite the challenges of digital media environments.

Our results contribute to understanding the paradoxical effects of digital media on expert trust. The negative association between information quantity and trust, coupled with the positive effect of quality, suggests a “less is more” principle for expert communication in digital environments. This extends theories of information overload and cognitive processing by demonstrating their relevance to trust judgments specifically.

Our integrated structural model advances theoretical understanding of the complex relationships between expert cognition dimensions, information characteristics, and trust outcomes. By demonstrating different pathways of influence for different trust dimensions, we provide a more sophisticated theoretical framework for future research on expert trust in digital contexts.

5.5. *Practical Implications for Digital Transformation Initiatives*

Our findings have several practical implications for experts, organizations, and platforms involved in digital transformation initiatives. The primacy of integrity in predicting trust suggests that digital transformation experts should emphasize independence, transparency, and ethical considerations in their communications. Merely demonstrating technical competence may be insufficient if experts are perceived as compromised by commercial interests or ideological biases [91].

The positive effect of two-sided information presentation suggests that acknowledging limitations, uncertainties, and potential downsides of digital transformation initiatives may paradoxically enhance rather than undermine trust. This challenges common assumptions that confident, unambiguous messaging is most effective for building public support [92].

The effectiveness of the expert verification feature suggests that digital platforms should develop mechanisms to help users identify credible sources of digital transformation expertise. Such features may be particularly valuable given the negative association between high information volume and trust, as they can help users navigate information-rich environments more effectively.

The varying effects of different information sources suggest that digital transformation experts should strategically leverage institutional channels, particularly academic and professional media platforms, while being cautious about over-reliance on social media and self-publishing platforms that may undermine rather than enhance trust [93].

5.6. *Limitations and Future Research Directions*

Despite its contributions, this study has several limitations that suggest directions for future research. Firstly, while our sample was diverse and reasonably large, it focused

on Chinese social media users, limiting generalizability to other cultural contexts. Future research should examine expert trust in digital transformation contexts across different countries and cultural settings to identify universal patterns and cultural variations.

Our cross-sectional design, though complemented by a quasi-experimental component, limits causal inference for many of the relationships identified. Longitudinal studies tracking changes in expert trust over time, particularly during specific digital transformation initiatives or controversies, would provide stronger evidence regarding causal mechanisms.

While our measures of expert trust were comprehensive, they focused primarily on general perceptions rather than trust in specific digital technologies or initiatives. Future research might examine how trust varies across different digital domains (e.g., artificial intelligence, blockchain, digital health) and how domain-specific factors influence trust judgments.

Our study focused primarily on individual-level perceptions and behaviors, with limited attention to organizational or institutional factors that might influence expert trust. Future research could adopt a multi-level approach, examining how organizational practices, institutional arrangements, and policy environments shape public trust in digital transformation experts.

While our integrated structural model provides a sophisticated framework for understanding expert trust, alternative theoretical models might offer additional insights. Future research might explore competing theoretical frameworks or incorporate additional variables such as political ideology, cultural values, or technology adoption patterns to further enhance our understanding of expert trust in digital transformation contexts.

6. Conclusions

Trust in experts is crucial for successful digital transformation and sustainable development initiatives, yet it faces significant challenges in contemporary media environments. This study provides a comprehensive analysis of the factors influencing public trust in digital transformation experts among Chinese social media users, yielding several conclusions.

- (1) Trust in digital transformation experts exists at moderate levels overall but varies significantly across different dimensions, with highest trust in the digital innovation enterprise broadly and lowest trust in specific digital sustainability advice. This pattern suggests that public skepticism is not directed at digital expertise per se but at specific applications or recommendations, particularly those requiring behavioral changes or resource commitments.
- (2) Perceptions of expert integrity emerge as the strongest predictor of trust, followed by professional competence, benevolence, and openness. This highlights the ethical dimension of expertise in digital contexts and suggests that technical knowledge alone is insufficient for establishing trust in digital transformation initiatives. Experts must also demonstrate independence, ethical commitment, concern for public welfare, and openness to dialogue.
- (3) Digital media usage has complex and sometimes paradoxical relationships with expert trust. Higher volumes of expert information correlate with lower trust levels, while higher quality information enhances trust. This “digital exposure paradox” suggests that the fragmented, decontextualized nature of social media information may undermine rather than enhance expert authority, challenging assumptions about the benefits of increased information access.
- (4) Technological solutions such as expert certification systems can help address the trust challenges created by digital media itself, demonstrating that platform design can influence trust judgments. Different information sources also have markedly

different effects on trust, with institutional sources generally enhancing trust and non-institutional sources potentially undermining it.

These findings suggest that building trust in digital transformation initiatives requires attention not just to what experts communicate but how they communicate it, through which channels, and with what framing. As societies navigate the complex challenges of digital transformation and sustainable development, understanding and addressing the factors that influence expert trust will be essential for mobilizing collective action toward shared goals.

By providing empirical insights into the multi-dimensional nature of expert trust and its determinants in digital contexts, this study offers a foundation for more effective expert communication strategies and platform design approaches. Future research should build on these findings to examine how expert trust evolves across different cultural contexts, technology domains, and institutional arrangements, further enhancing our understanding of this crucial aspect of digital transformation and sustainable development.

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Informed Consent Statement: Written informed consent was obtained from all participants prior to their participation in the study.

Data Availability Statement: Dataset available on request from the authors.

Conflicts of Interest: The authors declare no conflict of interest.

Appendix A. Detailed Measurement Instruments

Expert Credibility Scale (6 items)

Response Scale: 5-point Likert scale (1 = Strongly Disagree, 5 = Strongly Agree)

1. This expert holds an authoritative professional position in the field of digital transformation
2. The sustainable development information published by this expert is credible
3. I believe this expert possesses professional competence in the relevant field
4. This expert's views are recognized in academia
5. This expert demonstrates honesty on relevant issues
6. This expert's information sources are independent and objective

Perceived Expert Integrity Scale (2 items)

Response Scale: 5-point Likert scale (1 = Very Poor, 5 = Very Good)

1. This expert's objectivity in digital innovation matters
2. This expert's overall trustworthiness when recommending sustainable technology solutions

Perceived Expert Benevolence Scale (2 items)

1. Response Scale: 5-point Likert scale (1 = Very Poor, 5 = Very Good)
2. This expert's perceived warmth toward the public

This expert's alignment with public sustainability values

Expert Openness Scale (3 items)

Response Scale: 5-point Likert scale (1 = Very Poor, 5 = Very Good)

1. This expert's social media engagement about digital innovations
2. This expert's participation in public discussions about digital transformation
3. This expert's transparency in public communication activities

Digital Information Quantity Scale (5 items)

Response Scale: 5-point Likert scale (1 = Strongly Disagree, 5 = Strongly Agree)

1. I frequently encounter digital transformation expert information on social media
2. There are many trending topics about sustainable innovation featuring experts
3. Professional media outlets frequently cover digital technology expert opinions
4. Self-media platforms regularly discuss digital sustainability issues
5. Expert information about digital transformation appears frequently across platforms

Digital Information Quality Scale (7 items)

Response Scale: 5-point Likert scale (1 = Very Poor, 5 = Very Good)

1. Authority of technological information sources
2. Transparency of digital experts' backgrounds and affiliations
3. Accuracy of information about digital innovations
4. Balance in presenting multiple perspectives on digital transformation
5. Level of commercialization in sustainable technology information
6. Respect for privacy and rights in digital contexts
7. Comprehensiveness of digital transformation explanations

Appendix B. Confirmatory Factor Analysis Results

Table A1. Complete Factor Loading Matrix.

Item	Standardized Loading (λ)	SE	t-Value
Expert Trust (3 indicators)			
Digital Innovation Trust	0.89	0.021	42.38 ***
Digital Transformation Expert Trust	0.91	0.019	47.89 ***
Digital Sustainability Advice Trust	0.85	0.023	36.96 ***
Digital Professional Competence (4 indicators)			
Professional expertise in digital technologies	0.84	0.029	28.97 ***
Experience in digital transformation	0.81	0.031	26.13 ***
Academic reputation in sustainability	0.78	0.033	23.64 ***
Qualifications in digital fields	0.72	0.036	20.00 ***
Perceived Digital Expert Integrity (2 indicators)			
Objectivity in digital innovation	0.87	0.024	36.25 ***
Trustworthiness in sustainability recommendations	0.84	0.026	32.31 ***
Perceived Digital Expert Benevolence (2 indicators)			
Perceived warmth toward public	0.81	0.029	27.93 ***
Alignment with public sustainability values	0.88	0.025	35.20 ***
Digital Expert Openness (3 indicators)			
Social media engagement about digital innovation	0.79	0.031	25.48 ***
Participation in public discussions	0.85	0.027	31.48 ***
Transparency in public communication	0.85	0.027	31.48 ***

*** $p < 0.001$.

Table A2. Model Fit Indices.

Fit Index	Value	Acceptable Threshold
χ^2	346.72 (df = 112, $p < 0.001$)	—
χ^2/df	3.1	<3.0
CFI	0.94	>0.90
TLI	0.93	>0.90
RMSEA	0.057 (90% CI: 0.050–0.064)	<0.08
SRMR	0.051	<0.08

Appendix C. Reliability and Validity Assessment

Table A3. Construct Reliability and Validity.

Construct	Items	CR	AVE	Cronbach's α	$\sqrt{\text{AVE}}$
Expert Trust	3	0.92	0.8	0.91	0.89
Digital Professional Competence	4	0.88	0.65	0.87	0.81
Perceived Digital Expert Integrity	2	0.85	0.74	0.85	0.86
Perceived Digital Expert Benevolence	2	0.84	0.72	0.83	0.85
Digital Expert Openness	3	0.87	0.69	0.86	0.83
Digital Information Quantity	5	0.83	0.5	0.82	0.71
Digital Information Quality	7	0.89	0.54	0.88	0.73

Notes: CR = Composite Reliability; AVE = Average Variance Extracted. All CR values > 0.70 and AVE values > 0.50, indicating adequate reliability and convergent validity. $\sqrt{\text{AVE}}$ values support discriminant validity when greater than inter-construct correlations.

Table A4. Inter-construct Correlation Matrix.

Construct	1	2	3	4	5	6	7
1. Expert Trust	0.89						
2. Digital Professional Competence	0.68	0.81					
3. Perceived Digital Expert Integrity	0.71	0.63	0.86				
4. Perceived Digital Expert Benevolence	0.64	0.51	0.59	0.85			
5. Digital Expert Openness	0.59	0.48	0.47	0.53	0.83		
6. Digital Information Quantity	−0.28	−0.14	−0.31	−0.23	−0.08	0.71	
7. Digital Information Quality	0.63	0.51	0.58	0.39	0.42	−0.18	0.73

References

- Mihelj, S.; Kondor, K.; Štětka, V. Establishing Trust in Experts During a Crisis: Expert Trustworthiness and Media Use During the COVID-19 Pandemic. *Sci. Commun.* **2022**, *44*, 292–319. [\[CrossRef\]](#)
- Frewer, L.; Hunt, S.; Brennan, M.; Kuznesof, S.; Ness, M.; Ritson, C. The Views of Scientific Experts on How the Public Conceptualize Uncertainty. *J. Risk Res.* **2003**, *6*, 75–85. [\[CrossRef\]](#)
- Norberg, J.; Blenckner, T.; Cornell, S.E.; Petchey, O.L.; Hillebrand, H. Failures to Disagree Are Essential for Environmental Science to Effectively Influence Policy Development. *Ecol. Lett.* **2022**, *25*, 1075–1093. [\[CrossRef\]](#)
- Campbell, B.L. Uncertainty as Symbolic Action in Disputes Among Experts. *Soc. Stud. Sci.* **1985**, *15*, 429–453. [\[CrossRef\]](#)
- Jensen, J.D. Scientific Uncertainty in News Coverage of Cancer Research: Effects of Hedging on Scientists' and Journalists' Credibility. *Hum. Commun. Res.* **2008**, *34*, 347–369. [\[CrossRef\]](#)
- Karmarkar, U.R.; Tormala, Z.L. Believe Me, I Have No Idea What I'm Talking About: The Effects of Source Certainty on Consumer Involvement and Persuasion. *J. Consum. Res.* **2010**, *36*, 1033–1049. [\[CrossRef\]](#)
- Torres, R.; Gerhart, N.; Negahban, A. Epistemology in the Era of Fake News: An Exploration of Information Verification Behaviors among Social Networking Site Users. *SIGMIS Database* **2018**, *49*, 78–97. [\[CrossRef\]](#)
- Marsden, C.; Meyer, T.; Brown, I. Platform Values and Democratic Elections: How Can the Law Regulate Digital Disinformation? *Comput. Law Secur. Rev.* **2020**, *36*, 105373. [\[CrossRef\]](#)
- Yadav, S.K. Scientific Misconduct. In *Research and Publication Ethics*; Yadav, S.K., Ed.; Springer International Publishing: Cham, Switzerland, 2023; pp. 81–93, ISBN 978-3-031-26971-4.
- Lofstedt, R. Communicating Food Risks in an Era of Growing Public Distrust: Three Case Studies. *Risk Anal.* **2013**, *33*, 192–202. [\[CrossRef\]](#)
- Goldenberg, M.J. *Vaccine Hesitancy: Public Trust, Expertise, and the War on Science*; University of Pittsburgh Press: Pittsburgh, PA, USA, 2021.

12. Weingart, P. Scientific Expertise and Political Accountability: Paradoxes of Science in Politics. *Sci. Public Policy* **1999**, *26*, 151–161. [CrossRef]
13. Besley, J.C. Predictors of Perceptions of Scientists: Comparing 2001 and 2012. *Bull. Sci. Technol. Soc.* **2015**, *35*, 3–15. [CrossRef]
14. Besley, J.C.; Lee, N.M.; Pressgrove, G. Reassessing the Variables Used to Measure Public Perceptions of Scientists. *Sci. Commun.* **2021**, *43*, 3–32. [CrossRef]
15. Karmis, D.; Rocher, F. *Trust, Distrust, and Mistrust in Multinational Democracies: Comparative Perspectives*; McGill-Queen's University Press: Montreal, QC, Canada, 2023; pp. 3–15, ISBN 978-0-7735-5343-9.
16. Desmond, H. Status Distrust of Scientific Experts. *Soc. Epistemol.* **2022**, *36*, 586–600. [CrossRef]
17. Sherry, S. Democracy's Distrust: Contested Values and the Decline of Expertise. *Harv. Law Rev. Forum* **2011**, *125*, 7.
18. Herzog, L. *Citizen Knowledge: Markets, Experts, and the Infrastructure of Democracy*; Oxford University Press: Oxford, UK, 2024.
19. Dieckmann, N.F.; Johnson, B.B. Why do scientists disagree? Explaining and improving measures of the perceived causes of scientific disputes. *PLoS ONE* **2019**, *14*, e0211269. [CrossRef]
20. Verovšek, P.J.; Gorišek, M. Experts in Times of Pandemic: Reframing the Debate in the Context of Structural Transformations of the Public Sphere. *Javn.—Public* **2023**, *30*, 496–512. [CrossRef]
21. Intemann, K. Science Communication and Public Trust in Science. *Interdiscip. Sci. Rev.* **2023**, *48*, 350–365. [CrossRef]
22. Guo, L.; Zhang, X. Public Trust in Experts And Its Rebuilding: An Empirical Study. *J. Dialectics Nat.* **2017**, *39*, 82–92. [CrossRef]
23. McComas, K.A.; Trumbo, C.W. Source Credibility in Environmental Health—Risk Controversies: Application of Meyer's Credibility Index. *Risk Anal.* **2001**, *21*, 467–480. [CrossRef]
24. Hendriks, F.; Kienhues, D.; Bromme, R. Measuring Laypeople's Trust in Experts in a Digital Age: The Muenster Epistemic Trustworthiness Inventory (METI). *PLoS ONE* **2015**, *10*, e0139309. [CrossRef] [PubMed]
25. Goldstein, D.A.N.; Wiedemann, J. Who Do You Trust? The Consequences of Partisanship and Trust for Public Responsiveness to COVID-19 Orders. *Perspect. Politics* **2022**, *20*, 412–438. [CrossRef]
26. de Walle, S.V.; Migchelbrink, K. Institutional Quality, Corruption, and Impartiality: The Role of Process and Outcome for Citizen Trust in Public Administration in 173 European Regions. *J. Econ. Policy Reform* **2022**, *25*, 9–27. [CrossRef]
27. Schlesinger, M. A Loss of Faith: The Sources of Reduced Political Legitimacy for the American Medical Profession. *Milbank Q.* **2002**, *80*, 185–235. [CrossRef]
28. PytlikZillig, L.M.; Kimbrough, C.D. Consensus on Conceptualizations and Definitions of Trust: Are We There Yet? In *Interdisciplinary Perspectives on Trust*; Shockley, E., Neal, T.M.S., PytlikZillig, L.M., Bornstein, B.H., Eds.; Springer International Publishing: Cham, Switzerland, 2016; pp. 17–47.
29. Lewicki, R.J.; Wiethoff, C. Trust, Trust Development, and Trust Repair. In *The Handbook of Conflict Resolution: Theory and Practice*; Jossey-Bass/Wiley: Hoboken, NJ, USA, 2000; pp. 86–107, ISBN 978-0-7879-4822-1.
30. Rousseau, D.M.; Sitkin, S.B.; Burt, R.S.; Camerer, C. Not So Different After All: A Cross-Discipline View Of Trust. *AMR* **1998**, *23*, 393–404. [CrossRef]
31. Schoorman, F.D.; Mayer, R.C.; Davis, J.H. An Integrative Model of Organizational Trust: Past, Present, and Future. *AMR* **2007**, *32*, 344–354. [CrossRef]
32. Gulati, S.; McDonagh, J.; Sousa, S.; Lamas, D. Trust Models and Theories in Human–Computer Interaction: A Systematic Literature Review. *Comput. Hum. Behav. Rep.* **2024**, *16*, 100495. [CrossRef]
33. Mayer, R.C.; Davis, J.H.; Schoorman, F.D. An Integrative Model of Organizational Trust. *AMR* **1995**, *20*, 709–734. [CrossRef]
34. Baldwin, C.; Ebrahim, M.; Gaonkar, S.; Gawer, A.; Harracá, M.; Lavie, D.; Morino, P.; Novelli, E.; Panico, C.; Shipilov, A.V.; et al. Trust in the Digital Age: Strategic Perspectives on Trust Dynamics in Digital Platforms. *Proceedings* **2025**, *2025*, 16188. Available online: <https://journals.aom.org/doi/10.5465/AMPROC.2025.16188symposium> (accessed on 5 October 2025).
35. Cairney, P.; Wellstead, A. COVID-19: Effective Policymaking Depends on Trust in Experts, Politicians, and the Public. *Policy Des. Pract.* **2021**, *4*, 1–14. [CrossRef]
36. Luhmann, N. *Trust: A Simplified Mechanism of Social Complexity*; Shanghai People's Publishing House: Shanghai, China, 2005.
37. Fukuyama, F. *Trust: The Social Virtues and the Creation of Prosperity*; Simon and Schuster: New York, NY, USA, 1996.
38. Citrin, J.; Stoker, L. Political Trust in a Cynical Age. *Annu. Rev. Polit. Sci.* **2018**, *21*, 49–70. [CrossRef]
39. Jennings, W.; Stoker, G.; Valgarðsson, V.; Devine, D.; Gaskell, J. How Trust, Mistrust and Distrust Shape the Governance of the COVID-19 Crisis. *J. Eur. Public Policy* **2021**, *28*, 1174–1196. [CrossRef]
40. Susmann, M.W.; Wegener, D.T. The Independent Effects of Source Expertise and Trustworthiness on Retraction Believability: The Moderating Role of Vested Interest. *Mem. Cognit.* **2023**, *51*, 845–861. [CrossRef]
41. Legood, A.; van der Werff, L.; Lee, A.; den Hartog, D.; van Knippenberg, D. A Critical Review of the Conceptualization, Operationalization, and Empirical Literature on Cognition-Based and Affect-Based Trust. *J. Manag. Stud.* **2023**, *60*, 495–537. [CrossRef]
42. Hancock, P.A.; Kessler, T.T.; Kaplan, A.D.; Stowers, K.; Brill, J.C.; Billings, D.R.; Schaefer, K.E.; Szalma, J.L. How and Why Humans Trust: A Meta-Analysis and Elaborated Model. *Front. Psychol.* **2023**, *14*, 1081086. [CrossRef]

43. Wang, X.; Wang, Z.; Dolata, M.; Nunamaker, J.F. How Credibility Assessment Technologies Affect Decision Fairness in Evidence-Based Investigations: A Bayesian Perspective. *Decis. Support Syst.* **2024**, *187*, 114326. [\[CrossRef\]](#)
44. Tseng, S.; Fogg, B.J. Credibility and Computing Technology. *Commun. ACM* **1999**, *42*, 39–44. [\[CrossRef\]](#)
45. Ahmed, S.K. The Pillars of Trustworthiness in Qualitative Research. *J. Med. Surg. Public Health* **2024**, *2*, 100051. [\[CrossRef\]](#)
46. Quast, C. Towards a Balanced Account of Expertise. In *Questioning Experts and Expertise*; Routledge: New York, NY, USA, 2022; p. 23, ISBN 978-1-00-316185-1.
47. Lindberg, D.C. *The Beginnings of Western Science: The European Scientific Tradition in Philosophical, Religious, and Institutional Context, Prehistory to A.D. 1450*, 2nd ed.; University of Chicago Press: Chicago IL, USA, 2010; ISBN 0-226-48204-9.
48. Shapin, S. Here and Everywhere: Sociology of Scientific Knowledge. *Annu. Rev. Sociol.* **1995**, *21*, 289–321. [\[CrossRef\]](#)
49. Rutjens, B.T.; Sutton, R.M.; van der Lee, R. Not All Skepticism Is Equal: Exploring the Ideological Antecedents of Science Acceptance and Rejection. *Pers. Soc. Psychol. Bull.* **2018**, *44*, 384–405. [\[CrossRef\]](#)
50. Fischer, F. Citizen Participation and the Democratization of Policy Expertise: From Theoretical Inquiry to Practical Cases. *Policy Sci.* **1993**, *26*, 165–187. [\[CrossRef\]](#)
51. Collins, H.; Evans, R.; Gorman, M. Trading Zones and Interactional Expertise. *Stud. Hist. Philos. Sci. Part A* **2007**, *38*, 657–666. [\[CrossRef\]](#)
52. Nichols, T. *The Death of Expertise: The Campaign against Established Knowledge and Why It Matters*; Oxford University Press: Oxford, UK, 2017.
53. Vyacheslav, S. *The Social Integration of Science: Institutional and Epistemological Aspects of the Transformation of Knowledge in Modern Society*; edition sigma: Baden-Baden, Germany, 2009; ISBN 978-3-89404-942-3.
54. Head, B.W. Reconsidering expertise for public policymaking: The challenges of contestability. *Aust. J. Public Adm.* **2024**, *83*, 156–172. [\[CrossRef\]](#)
55. Eyal, G. *The Crisis of Expertise*; John Wiley & Sons: Hoboken, NJ, USA, 2019; ISBN 1-5095-3886-0.
56. Wang, S. Scientific-Related Populism in Contemporary Western Society: A New Scientific Culture Phenomenon. *J. Dialectics Nat.* **2024**, *46*, 76–86. [\[CrossRef\]](#)
57. Pfister, T.; Horvath, A. Reassessing Expert Knowledge and the Politics of Expertise. *Innov. Eur. J. Soc. Sci. Res.* **2014**, *27*, 311–316. [\[CrossRef\]](#)
58. Hosking, G. *Trust: A History*; Oxford University Press: Oxford, UK, 2014; ISBN 978-0-19-102072-8.
59. O'Neill, O. *A Question of Trust*; Cambridge University Press: Cambridge, UK, 2022; ISBN 978-0-521-52996-9.
60. Chesta, R.E. What Is Critical About the Crisis of Expertise? A Review of Gil Eyal's *The Crisis of Expertise* (2019, Cambridge: Polity Press). *Int. J. Polit. Cult. Soc.* **2022**, *35*, 111–117. [\[CrossRef\]](#)
61. Fiske, S.T.; Dupree, C. Gaining Trust as Well as Respect in Communicating to Motivated Audiences about Science Topics. *Proc. Natl. Acad. Sci. USA* **2014**, *111*, 13593–13597. [\[CrossRef\]](#)
62. Origi, G. Is Trust an Epistemological Notion? *Episteme* **2004**, *1*, 61–72. [\[CrossRef\]](#)
63. Origi, G. Epistemic Trust. In *Information Evaluation*; Capet, P., Delavallade, T., Eds.; Wiley: Hoboken, NJ, USA, 2013; pp. 35–54, ISBN 978-1-84821-659-4.
64. Landrum, A.R.; Eaves, B.S.; Shafto, P. Learning to Trust and Trusting to Learn: A Theoretical Framework. *Trends Cogn. Sci.* **2015**, *19*, 109–111. [\[CrossRef\]](#)
65. Lavezzolo, S.; Ramiro, L.; Fernández-Vázquez, P. The Will for Reason: Voter Demand for Experts in Office. *West Eur. Politics* **2021**, *44*, 1506–1531. [\[CrossRef\]](#)
66. Jarreau, P.B.; Cancellare, I.A.; Carmichael, B.J.; Porter, L.; Toker, D.; Yammine, S.Z. Using Selfies to Challenge Public Stereotypes of Scientists. *PLoS ONE* **2019**, *14*, e0216625. [\[CrossRef\]](#)
67. Nakayachi, K.; Cvetkovich, G. Public Trust in Government Concerning Tobacco Control in Japan. *Risk Anal.* **2024**, *30*, 143–152. [\[CrossRef\]](#)
68. *Trust and Credibility in Risk Communication*; Universitätsbibliothek der Universität Stuttgart: Stuttgart, Germany, 2010.
69. Van Noorden, R. Online Collaboration: Scientists and the Social Network. *Nat. News* **2014**, *512*, 126. [\[CrossRef\]](#)
70. Brossard, D.; Scheufele, D.A. Science, New Media, and the Public. *Science* **2013**, *339*, 40–41. [\[CrossRef\]](#)
71. Dudo, A.; Brossard, D.; Shanahan, J.; Scheufele, D.A.; Morgan, M.; Signorielli, N. Science on Television in the 21st Century: Recent Trends in Portrayals and Their Contributions to Public Attitudes Toward Science. *Commun. Res.* **2011**, *38*, 754–777. [\[CrossRef\]](#)
72. Huber, B.; Barnidge, M.; Gil De Zúñiga, H.; Liu, J. Fostering Public Trust in Science: The Role of Social Media. *Public Underst. Sci.* **2019**, *28*, 759–777. [\[CrossRef\]](#) [\[PubMed\]](#)
73. Reif, A.; Kneisel, T.; Schäfer, M.; Taddicken, M. Why Are Scientific Experts Perceived as Trustworthy? Emotional Assessment within TV and YouTube Videos. *Media Commun.* **2020**, *8*, 191–205. [\[CrossRef\]](#)
74. Zhang, T.; Harrington, K.B.; Sherf, E.N. The Errors of Experts: When Expertise Hinders Effective Provision and Seeking of Advice and Feedback. *Curr. Opin. Psychol.* **2022**, *43*, 91–95. [\[CrossRef\]](#)

75. Koivumäki, T.; Ristola, A.; Kesti, M. The Effects of Information Quality of Mobile Information Services on User Satisfaction and Service Acceptance—Empirical Evidence from Finland. *Behav. Inf. Technol.* **2008**, *27*, 375–385. [\[CrossRef\]](#)
76. Forsgren, N.; Durcikova, A.; Clay, P.; Wang, X. The Integrated User Satisfaction Model: Assessing Information Quality and System Quality as Second-Order Constructs in System Administration. *Commun. Assoc. Inf. Syst.* **2016**, *38*, 803–839. [\[CrossRef\]](#)
77. Miller, H. The Multiple Dimensions of Information Quality. *Inf. Syst. Manag.* **1996**, *13*, 79–82. [\[CrossRef\]](#)
78. Afful-Dadzie, E.; Afful-Dadzie, A.; Egala, S.B. Social Media in Health Communication: A Literature Review of Information Quality. *HIM J.* **2023**, *52*, 3–17. [\[CrossRef\]](#) [\[PubMed\]](#)
79. Hendriks, F.; Janssen, I.; Jucks, R. Balance as Credibility? How Presenting One- vs. Two-Sided Messages Affects Ratings of Scientists' and Politicians' Trustworthiness. *Health Commun.* **2023**, *38*, 2757–2764. [\[CrossRef\]](#)
80. Dieterle, K.; Scheffold, H.; Köhl, M.; Köhl, S.J. [Environmental knowledge and environmental awareness among Generation Z students: An online survey at the University of Ulm]. *Z. Evid. Fortbild. Qual. Gesundheitswes.* **2023**, *179*, 80–90. [\[CrossRef\]](#)
81. Machleid, F.; Kaczmarczyk, R.; Johann, D.; Balčiūnas, J.; Atienza-Carbonell, B.; von Maltzahn, F.; Mosch, L. Perceptions of Digital Health Education Among European Medical Students: Mixed Methods Survey. *J. Med. Internet Res.* **2020**, *22*, e19827. [\[CrossRef\]](#) [\[PubMed\]](#)
82. Yamane, T.; Kaneko, S. Is the Younger Generation a Driving Force toward Achieving the Sustainable Development Goals? Survey Experiments. *J. Clean. Prod.* **2021**, *292*, 125932. [\[CrossRef\]](#)
83. Quinn, T.P.; Senadeera, M.; Jacobs, S.; Coghlan, S.; Le, V. Trust and Medical AI: The Challenges We Face and the Expertise Needed to Overcome Them. *J. Am. Med. Inf. Assoc.* **2020**, *28*, 890–894. [\[CrossRef\]](#)
84. Handoyo, S. Purchasing in the Digital Age: A Meta-Analytical Perspective on Trust, Risk, Security, and e-WOM in e-Commerce. *Heliyon* **2024**, *10*, e29714. [\[CrossRef\]](#)
85. Richardson, M.; Thatcher, A. State of Science: Refitting the Human to Nature. *Ergonomics* **2024**, *67*, 582–596. [\[CrossRef\]](#)
86. Burger, J.; Greenberg, M.; Lowrie, K.; Kosson, D. David Kosson-Be Trustworthy, Credible, Approachable, and Independent. *Risk Anal.* **2022**, *42*, 2494–2499. [\[CrossRef\]](#)
87. Balog-Way, D.; McComas, K.; Besley, J. The Evolving Field of Risk Communication. *Risk Anal.* **2020**, *40*, 2240–2262. [\[CrossRef\]](#) [\[PubMed\]](#)
88. Gawer, A.; Bonina, C. Digital Platforms and Development: Risks to Competition and Their Regulatory Implications in Developing Countries. *Inf. Organ.* **2024**, *34*, 100525. [\[CrossRef\]](#)
89. Bennich, A. The Digital Imperative: Institutional Pressures to Digitalise. *Technol. Soc.* **2024**, *76*, 102436. [\[CrossRef\]](#)
90. Keating, L.A.; Walker, B.W.; Heimstadt, M.; Rousseau, D.M.; Reed, C.; Monteiro, P. The Crisis of Expertise: What Does It Mean for Management Scholars? *Proceedings* **2025**, *2025*, 11342.
91. Thomas, R.P.; Lawrence, A. Assessment of Expert Performance Compared Across Professional Domains. *J. Appl. Res. Mem. Cogn.* **2018**, *7*, 167–176. [\[CrossRef\]](#)
92. Schuh, J.S.; Prus, E.C.; Abello, C.; Evans, K.; Walker, K.; Miller, M.; Castrucci, B.C. Public Health Communication and Trust: Opportunities for Understanding. *J. Health Commun.* **2025**, *30*, 76–89. [\[CrossRef\]](#)
93. Zahrai, K.; Veer, E.; Ballantine, P.W.; de Vries, H.P.; Prayag, G. Either You Control Social Media or Social Media Controls You: Understanding the Impact of Self-Control on Excessive Social Media Use from the Dual-System Perspective. *J. Consum. Aff.* **2022**, *56*, 806–848. [\[CrossRef\]](#)

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