

The Effect of Information Seeking Behavior on Trust in AI in Asia: The Moderating Role Of Misinformation Concern

Abstract

Public opinion on new technologies, like AI, is influenced by media coverage. However, it remains unclear as to what extent seeking news and information about AI on legacy media as opposed to social media can shape trust in AI. A cross-national survey conducted across Malaysia, Indonesia, Singapore, and India investigated the impact of information-seeking behavior on trust in AI, as well as the moderating role of concern about misinformation online. Results indicate a positive relationship exists between seeking AI information on social media and trust across all countries. However, for traditional media, this association was only present in Singapore. When considering misinformation, a positive moderation effect was found for social media in Singapore and India, whereas a negative effect was observed for traditional media in Singapore. These findings have implications for the adoption of novel technologies and highlight the importance of understanding the role of media in shaping public trust.

Keywords: Artificial intelligence, misinformation, trust, information seeking, Asia

Artificial intelligence (AI) is a relatively nascent technological innovation widely known for its ability to mimic human intelligence and revolutionize decision-making in increasingly digital environments. Proponents of AI's revolutionary potential argue that advancements in machine learning, natural language processing, and robotics have enabled a new era of innovation and problem-solving (Verganti, Vendraminelli & Iansiti, 2020; Füller et al., 2022). These AI-driven technologies have led to significant breakthroughs in healthcare, climate change, transportation, and communication, among other fields (Russell & Norvig, 2021). However, as one strand of research praises AI's groundbreaking potential in advancing human knowledge, others in the scientific community have expressed serious concerns about possible threats to society (Johnson, 2019; Paris & Donovan, 2019). Of particular concern is its potential weaponization for spreading misinformation: critics argue that AI-driven misinformation campaigns, deepfakes, and even autonomous weapons have raised deep concerns about the ethical implications of AI surrounding its ability to undermine democratic processes and destabilize societies (Brundage et al., 2018).

These two contradictory views are likely to impact perspectives towards AI, importantly from the viewpoint of trust, as they gain widespread news media coverage. Research suggests that media coverage plays a significant role, particularly for those without prior experience or even knowledge of such new technologies (Hoff & Bashir, 2015; Lee & See, 2004; Pavlou, 2003). The effects of this coverage are likely different between legacy media, which comprises print media, film, and broadcasting, and social media, which not only includes interactive online technologies like social networking platforms and websites but also offers a dynamic nature characterized by diverse content and high audience engagement (Sun et al., 2023). Importantly, social media platforms have been observed to present AI in a more negative light compared to traditional media, with discussions frequently dominated by negative sentiments around job losses and privacy breaches (Fountaine, McCarthy, & Saleh,

2019). On the other hand, legacy media tends to provide a more balanced discourse around AI, presenting both potential benefits and risks (Cave, Craig, & Dihal, 2018). This difference in presentation between media types, coupled with social media's propensity to amplify misinformation due to its algorithmic design and network effects (Vosoughi, Roy, & Aral, 2018), suggests that understanding the role of media in shaping trust in AI is more complex than it might initially appear. In addition, in diverse Asian societies, deep-rooted differences in cultural and political landscapes significantly influence this portrayal of AI as well. For instance, in technologically advanced Singapore, media narratives often frame AI as a catalyst for progress, engendering public trust (Varakantham et al., 2017). Conversely, in countries like India and Indonesia, where digital literacy levels are disparate, media narratives present a more complex picture, leading to a spectrum of public opinions (Kapania et al., 2022). Complicating these relationships further is the rise of misinformation in the online digital sphere, introducing uncertainty to the discussion as individuals who perceive AI-assisted technologies as enabling the spread of misinformation are more likely to trust AI less.

Public trust in AI, shaped within this complex narrative, is not just an important antecedent of its acceptance and utilization (Wanner et al., 2022), but also holds broader implications for democratic processes and societal stability. A situation where AI-assisted technologies are perceived to propagate misinformation could engender distrust in AI, hindering its societal integration and limiting its potential benefits. These bear important consequences for countries where AI systems are becoming increasingly integrated into everyday public life, inevitably undermining progress essential to the development of these nations as they look to realize the full potential of AI.

We thus test these relationships in the cross-cultural contexts of four relevant Asia-Pacific (APAC) countries: Malaysia, Indonesia, Singapore and India. Singapore and India have initiated national frameworks for AI integration into industries and developing regional hubs

of AI-related research and development (Tan, 2022; Made Anthony Iswara, 2020). Meanwhile, Malaysia has partnered with the private sector on AI projects (Artificial Intelligence in the Asia-Pacific Region, 2020), and Indonesia launched an initiative promoting digital startups (Bambani, 2022). While these advancements better position these countries to adopt AI, it also exposes them to potential misuse. It's therefore crucial to understand factors affecting public perception of AI given these changes.

In particular, this paper seeks to investigate the effects of information seeking behavior on both legacy and social media on trust in AI and determine whether concern about misinformation plays a moderating role. This article contributes by presenting timely empirical evidence from an online cross-national survey administered in Malaysia, Indonesia, Singapore and India (N=1,150 each). We show that mass media continues to play a consequential role in shaping public opinion towards AI, with social media standing out as compared to legacy media. Crucially, we also extend the literature by showing how such initial perceptions may be formed against a backdrop of rising concern about misinformation online. We conclude the paper by discussing its implications for news consumption behaviour about AI and its limitations.

Effects of Media Use on Trust in AI

The influence of mass media in shaping public opinion and the underlying mechanisms driving this process have been covered extensively in the extant literature (Donk et al., 2012; Ho et al., 2010). People often feel a greater need for media information when it comes to evolving technologies (Yang, Kahlor, and Li, 2014). The emerging revelations about AI and consequent debates and commentaries in news media inform and influence the public about the relevance and impact of the technology (Goodman & Goodman, 2006). These in-depth discussions in news media about the potential benefits and threats of AI allow critical assessment which is crucial in influencing public attitudes (Broussard et al., 2019). However,

people seeking information about AI in traditional (such as newspapers and television) and social (such as Facebook or Twitter) media may have different perceptions and levels of trust in AI, owing to the differences in both the coverage and innate nature of these platforms.

In recent years, mainstream media coverage of AI has mainly developed in the context of the digital transformation of the news industry (Broussard et al., 2019). “News consumption effectively augments AI trust”, aside from enhancing trust in corporations that develop AI (Chen, 2021, p.12). Science communication in the news and how it builds trust among the general public, including in AI, is contingent on its compatibility with existing values (Chen, 2021, Gauchat, 2012). Media reporting influences public discourses on scientific advances and the discursive construction of benefits and risks (Lupton 2013; Pentzold et al. 2019). In recent times, “A.I. news framing shifted from portraying the technology as a concept or research subject and topic of science fiction to focusing on the concrete economic, social, cultural, and political impacts” (Nguyen & Hekman, 2022, p.12).

In their study on framing of AI in American newspapers, Chaun et al (2019) found that the mainstream news, while raising questions on privacy and misuse, did not discuss any social or ethical issues in society in particular. Similarly, Cui & Wu (2021) uncover evidence of a differential effect on perceptions towards AI based on news medium, with TV and WeChat usage positively associated with perceived benefits of and support for AI, and newspaper usage, in contrast, negatively associated. Against the backdrop of generally favourable coverage of AI in China, they posited that these differences might be attributed to distinct attributes innate to each medium: TV combines audio and visual elements to deliver content which may emphasize positive AI framing effects, while WeChat's “opinion-oriented and multiformat content”, which are often one-sided, contribute to reinforcing the positive frames. Newspapers, in contrast, are able to foster critical thinking by delivering high quality and well-crafted texts.

Compared to traditional media, social media news has grown significantly in its ability to shape public beliefs, largely due to its efficiency in disseminating information and facilitating interactive discussions on a variety of topics (Wang, 2021). Scholars contend that the diverse content and high level of audience engagement on social media platforms render them more effective in quickly influencing public attitudes compared to their traditional counterparts (Lee and Ma, 2012). While traditional media relies on authoritative sources, social media sources news widely, effectively shaping attitudes (Sun et al., 2023; Hayes and King, 2014). Nguyen & Hekman (2022) found that popular social media outlets coverage presented AI as a real problem with a negative influence on culture, healthcare, and security. Zubiaga et al. (2018) noted concerns like trust and privacy on Twitter regarding the Internet of Things. Public discussions on digital platforms emphasize value and risk, often giving deeper insights than mainstream news (Nguyen & Hekman, 2022).

However, perceptions towards AI are not solely influenced by the media; other factors, like faith and engagement in AI, play crucial roles. In studying the determinants of technology trust, Mcknight et al. (2011) highlighted the importance of accounting for individuals' predispositions towards technology, finding that faith in general technology had a positive influence on trust in technology. Engagement with AI has also been known to affect trust in AI as individuals garner credible information following their experience interacting with it; Waytz et al. (2014) showed that individuals using vehicles with more anthropomorphic features expressed greater tendencies to trust their vehicle than those using ordinary vehicles. Based on these findings, we therefore propose the following hypotheses:

H1a. Seeking information about AI on traditional media is positively associated with trust in AI after controlling for faith in and engagement with AI.

H1b. Seeking information about AI on social media is negatively associated with trust in AI after controlling for faith in and engagement with AI.

Concern about Online Misinformation

Digital technologies have become pervasive and now permeate nearly every aspect of society. Increasing connectivity has paved the way for misinformation to emerge as a serious threat (Bessi et al., 2016; Pickard, 2019). Scholars argue that degraded media systems and persistent policy failures of governments provide a fertile space for misinformation to mislead citizens (Pickard, 2019). Online misinformation, often in the form of fake news or doctored content, is generated and disseminated by various sources, including malicious actors, bots, and unsuspecting users. It spreads rapidly through social media platforms, chat applications and websites, making it difficult to contain. When conceptualizing misinformation in academic research, scholars tend to characterize it as distinct from similar concepts like disinformation and fake news. While disinformation refers to the systematic and deliberate manipulation of information (Barfar, 2019), “misinformation is false content shared by a person who does not realize it is false or misleading” (Shu et al., 2020, p.2). However, misinformation across social networks easily turns into disinformation if it is intentionally distributed to mislead people, as in the case of fake news (Keller et al., 2020; Shu et al., 2020). Thus, disinformation can be seen as a subcategory of the broader category of misinformation.

The rise of a “misinformation society” in the contemporary media landscape has been primarily associated with the circulation and consumption of unreliable information across social media (Neyazi et al., 2022, Pickard, 2017). The rapid dissemination of fake news through social media platforms, powered by AI algorithms, has led to an increase in political polarization (Vosoughi et al., 2018). Similarly, deepfakes – AI-generated images, videos, and audio – can manipulate public opinion and endanger personal reputations (Chesney & Citron, 2019). The weaponization of AI in military applications, such as autonomous weapons systems, raises ethical concerns and the potential for devastating consequences if left unregulated (Scharre, 2018). Thus, AI has been both a facilitator and a victim of online misinformation. On

one hand, AI algorithms can inadvertently promote misinformation by prioritizing engagement over accuracy. Furthermore, AI-generated content such as deepfakes can contribute to the spread of false information. On the other hand, public perception of AI is adversely affected when it is associated with misinformation. People may become sceptical of AI's capabilities and question its reliability, thereby undermining public trust in the technology. Furthermore, if people believe that AI systems are being used to spread misinformation, they may be less likely to trust AI recommendations or decisions. This can be particularly concerning in areas such as healthcare and finance, where AI-powered systems are increasingly used to make important decisions (Ghaleb et al., 2020).

The progress made in AI, specifically in natural language processing, has further decreased the obstacles to creating false news stories among malicious online agents. The advancement in the field of generative AI such as ChatGPT and Bard is particularly alarming as they are capable of producing highly convincing text paragraphs. The introduction of these technologies raises concerns about the spread of misinformation in social media as it has become easier to produce human-like text with the aim of influencing and manipulating a large number of people with less effort, and at a larger scale than previously thought possible (Floridi & Chiriatti, 2020). Similarly, online misinformation can be used to manipulate AI systems. For example, malicious actors could create fake news stories or reviews to influence the recommendations made by an AI-powered news aggregator or product recommendation system. This can be particularly problematic when it comes to political or social issues, where misinformation can be used to manipulate public opinion, which can, in turn, affect the functioning of democratic institutions.

Such fast-paced developments in the field of AI and weaponization of AI-powered technology is bound to affect trust in AI. With the growing relevance of social media as news sources, the weaponization of social media platforms in the spread of misinformation has

affected user interaction with these platforms (Nielsen & Ganter, 2018, Neyazi et al., 2022). Increasing concerns about misinformation have contributed to a cynical approach among internet users and their declining intentions to engage online (Balmas, 2014). Based on these findings, we propose the following hypotheses:

H2a. Concern about misinformation online will weaken the positive relationship between information seeking behavior about AI on traditional media and trust in AI.

H2b. Concern about misinformation online will strengthen the negative relationship between information seeking behavior about AI on social media and trust in AI.

Empirical Context

Our study uses data from four Asia-Pacific (APAC) countries: India, Indonesia, Malaysia and Singapore. This is important as much of the current research on the perceptions of AI, and deepfake technology in particular, is dominated by research conducted in Western countries. This is ironic as most users of digital media, which share a higher risk of being exposed to misinformation, tend to be located in Asian countries, with 64% of the global social media audience found to be represented by the APAC region in 2019 (Jansen Bek, 2020). Furthermore, the opportunities as well as the risks associated with the emergence of AI has been recognized by many APAC governments, which have undertaken significant investments in the research and development of AI. India and Singapore, for instance, are part of the Global Partnership on Artificial Intelligence (GPAI), which is a consortium of 25 countries that aim to facilitate international cooperation on AI by supporting research on AI-related areas (Nidhi Singal, 2022). Malaysia and Indonesia, in contrast, have focused on cooperation with the private sector on joint pilot projects: for instance, in 2016, the Ministry of Communication and Information of Indonesia launched the 1000 Digital Startup Movement aimed at encouraging the rise of digital technology companies. In 2017, MIMOS, Malaysia's National R&D Center

for ICT, partnered with Huawei, a Chinese telecommunications company, to develop advanced AI-based security solutions (The International Institute of Communications, 2020).

Method

We engaged with Cint, a global market research agency, to administer an online survey to four Asia-Pacific countries: Malaysia, Indonesia, Singapore and India. The survey's purpose was to gauge the public sentiment towards artificial intelligence amid a climate of misinformation. Data collection took place between February and March, 2022: Malaysia=21st February-28th February, Indonesia=21st February-11th March, Singapore=21st February-16th March, India=21st February-9th March. Each country's sample comprises 1,150 respondents, all of whom were asked about their nationality and country of residence prior to beginning the survey. The Singapore sample is nationally representative in terms of gender, age and income whereas the Malaysia, Indonesia and India samples are representative of the online population.¹ At the beginning of the survey, participants were notified of the objectives of the study, along with the confidentiality of the data to be collected, and were also accorded the option to stop participation at any point where they feel uncomfortable. The participants then gave informed consent on the survey form and began the survey² (IRB approval redacted for peer review).

Measures

Dependent Variable: Trust in AI

Extensive research has been conducted by researchers in the field to develop measures that are tractable and precise for studying human-computer trust. Our study adopts four items: "Information from AI is trustworthy" and "I trust AI to do what is right" from Nisbet et al. (2015), and two items, "If I use artificial intelligence, I think I would be able to depend on it completely" and "I can always rely on artificial intelligence" from Gulati et al. (2019). Meant

¹ More details on the differences in the representativeness of the samples could be found in Appendix 1.

² Respondents were afforded the option to take the survey in a language that was predominantly used in their respective countries (SG=English, IN=English, MY=Bahasa Melayu, English, ID=Bahasa Indonesia, English).

to capture different dimensions of trust deemed salient for studying the implications of misinformation in the online information environment, the former seeks to determine the extent to which AI is perceived to adhere to a set of principles (trustworthiness) deemed acceptable to the participant whereas the latter gauges a participant's willingness to depend on AI (reliability). Respondents rated their agreement on a 5-point Likert scale (1=Strongly Disagree, 5=Strongly Agree). These items formed an AI trust index (Cronbach's $\alpha=0.786$), our study's dependent variable.

Independent Variables: Information Seeking Behavior About AI on Traditional and Social Media

To measure an individual's tendency to seek news and information about AI on traditional and social media, respondents were asked: "Thinking about AI in general, how often would you say you SEEK news and information about AI from each of the following sources?". Responses were measured on a 6-point Likert scale (1=Not at all, 6=Multiple times a day). For traditional media, we combined responses to newspapers and television to form an index of information seeking behavior on traditional media (Cronbach's $\alpha=0.749$; Spearman-Brown reliability coefficient=0.753). Similarly, for social media, responses to YouTube channels, WhatsApp, Facebook, Instagram, Twitter, LinkedIn and Reddit were combined to form an index of information seeking behavior on social media (Cronbach's $\alpha=0.902$).³ These measures of information seeking behavior about AI were used as independent variables.

Moderator: Concern About Misinformation Online

We measured an individual's extent of concern about misinformation online with the following question: "How concerned are you about each of the following?". The statements include: "I have spread misinformation online, even unintentionally", "I have been exposed to

³ Descriptive statistics illuminating the popularity of these platforms across the four countries are provided in Appendix 2.

misinformation online." Responses were recorded on a 5-point Likert scale (1=Not Concerned, 5=Very Concerned). An index was then formed by combining these two measures (Cronbach's $\alpha=0.707$; Spearman-Brown reliability coefficient=0.711), which is used as the moderator.

Control Variables

Faith in AI

We adopt a broad perspective for faith in AI by seeking to capture individuals' beliefs on the merits of AI in general, encompassing perspectives from that of the individual, the society and also on the battle against misinformation. The last-mentioned viewpoint, noted for its contextual specificity, was included because the implications of misinformation on the antecedents of trust in AI is a central aspect of our investigation.⁴ Participants' degree of faith in AI was measured with a series of nine positively-worded statements about AI, measured on a 5-point Likert scale (1=Strongly Disagree, 5=Strongly Agree). These statements comprise: "I believe that artificial intelligence will act in my best interests", "I believe that artificial intelligence will do its best to help me if I need help", "I believe that artificial intelligence is interested in understanding my needs and preferences", "AI will be at the center of the next technological revolution", "[COUNTRY NAME] is at the forefront globally for AI innovation", "AI technology may increase jobs rather than decrease them", "Advancement in AI may lead to job losses in the short term, but will produce more jobs long term", "AI will lead to far-ranging improvements in controlling misinformation on social media platforms" and "AI will lead to far-ranging improvements in eradicating misinformation on social media platforms". Responses to these were combined to form an index of faith in AI (Cronbach's $\alpha=0.827$), which is used as control.

⁴ While faith in AI and trust may seem related, they are not identical. Faith in AI, as we have defined, extends beyond trust, capturing an all-encompassing belief in the positive potential of AI.

Engagement with AI

To control for prior engagement with AI, we asked respondents: "Which of the following technologies have you ever used or interacted with in the past 12 months?". The technologies included: "Voice Assistants (e.g., Siri)", "Robots / Self-working Machines", "Image Recognition", "Natural Language Processing", "Computer Vision", "Drones", "Text Recognition", "Traffic & Navigation Apps", "Gaming Consoles (e.g., Xbox)", "Autonomous vehicles", "Metaverse", "Virtual Reality" and "Augmented Reality". Responses were collected on a 5-point Likert scale (1="Never used", 5="Used almost all the time") and were subsequently combined to form an additive index (Cronbach's $\alpha=0.929$).

Demographics

We used four key demographic variables as controls: gender (female: MY=46.1%, ID=44.9%, SG=51%, IN=45%), age (M : MY=33.306, ID=33.740, SG=45.906, IN=33.487), education and income. To accommodate the varying contexts induced by the country of the respondents, we provided localized options for education and income (See Appendix 3 for more details).⁵

Analytical Strategy

The central question in our study concerns how different levels of information seeking behavior about AI on traditional and social media affects an individual's level of trust in AI and whether concern about misinformation online plays a role in moderating these relationships. We adopt a hierarchical linear regression procedure to test these hypotheses and assess evidence for moderation effect(s) based on the improvement of fit induced by the inclusion of the relevant interaction terms; this determination would be based on an F -test of nested (linear) model comparison as well as change in adjusted R^2 . Prior to fitting the models, we normalized all variables to lie in the 0-1 range to aid the interpretability of results. To check for

⁵ Descriptive statistics for education and income are shown in Table A4 in Appendix 4.

multicollinearity issues, we compute the variance inflation factor (VIF) scores for each regressor; highly collinear variables, with a VIF score of above 5, were identified for removal (Menard, 2001). The low VIF scores observed suggest that the effects are identifiable (see Appendix 5).

Results

Table 1 shows the results of the hierarchical regression procedure.⁶⁷ Models I, II, III and IV show the association of trust in AI with information seeking behavior about AI on traditional and social media, in the absence of moderation by concern about misinformation online. Standard goodness-of-fit statistics such as adjusted R^2 and F test of overall significance indicate that these models provide a good fit (Adjusted R^2 s > 0.38 , F s all significant).

Table 1 shows that for traditional media, a positive association exists in the context of Singapore: an increase in information seeking behavior about AI on traditional media of 1 unit is associated with a corresponding increase in trust in AI of 0.052 units, on average, for Singapore. No analogous statistical evidence, at the 0.05 level, could be found for Malaysia, Indonesia and India. This indicates that H1a is partially supported, as a positive association for traditional media could only be established in one (Singapore) of the four APAC countries. On the other hand, in the case of social media, significant positive associations could be found across all four countries: an increase in information seeking behavior about AI on social media of 1 unit is associated with a corresponding increase in trust in AI of 0.083, 0.088, 0.074, and 0.118 units in Malaysia, Indonesia, Singapore and India, respectively, on average. This presents evidence to refute H1b, given that positive associations were found in the place of negative associations, as was postulated.

[Insert Table 1 near here]

⁶ Results where the media effects of TV and newspapers are tested separately, are shown in Appendix 6.

⁷ The robustness of the findings with respect to the inclusion of faith in AI is tested in Appendix 7.

Models V, VI, VII and VIII presents the analogous regression results in the presence of moderation by concern about misinformation online.⁸ Table 1 also shows that, at the 95% confidence level, there is sufficient evidence to conclude that a moderating effect by concern about misinformation online exists in Singapore ($F=4.268$, $df=2$, $p\text{-value}=0.014$) and India ($F=4.273$, $df=2$, $p\text{-value}=0.014$). This moderation component explains about 0.3 and 0.4 percent of the variance in trust in AI for Singapore and India, respectively. However, no evidence of a moderation effect could be found in Malaysia ($F=2.114$, $df=2$, $p\text{-value}=0.121$) or Indonesia ($F=1.237$, $df=2$, $p\text{-value}=0.291$), in contrast.

Concern about misinformation online is found to weaken the positive relationship between traditional media and trust in AI in Singapore: the conditional effect of information seeking behavior about AI on traditional media on trust in AI decreases by 0.153 units for each unit increase in concern about misinformation online, on average. This interaction effect is depicted in Figure 1A, which shows that among those less concerned about misinformation online, trust in AI is higher among those found to be seeking news and information about AI on traditional media more. This finding partially supports H2a, given that a negative moderation effect of concern about misinformation online on information seeking behavior about AI on traditional media could be found in the context of Singapore, but not for the other countries.

[Insert Figure 1A near here]

On the other hand, for social media, concern about misinformation online is found to be strengthen the positive relationship between social media and trust in AI in Singapore and India: the conditional effect of information seeking behavior about AI on social media on trust in AI increases by 0.235 and 0.171 units, respectively, for each unit increase in concern about misinformation online, on average, for Singapore and India, respectively. Figures 1B and 1C

⁸ Results for the setting where the moderation effects are tested separately could be found in Appendix 8.

depict these interaction effects, which show that participants more concerned about misinformation online reported higher levels of trust in AI when found to be seeking news and information about AI on social media more. These findings do not support H2b, since the significant positive coefficient found for the interaction terms indicate that concern about misinformation online strengthens the positive relationship between social media and trust in AI – in contrast, we postulated that it would strengthen the negative relationship between these two constructs.

[Insert Figures 1B and 1C near here]

Discussion

In this paper, we seek to introduce clarity on the relationship between information seeking behavior and trust in AI in the context of four diverse APAC countries: Malaysia, Indonesia, Singapore and India. Our findings highlight the increasing influence of social media in shaping perceptions towards AI: a positive association between information seeking behavior about AI on social media and trust in AI is evident across all four countries. However, for traditional media, a similar positive association was only observed in Singapore. This supports the prevailing narrative that individuals in the APAC region are increasingly turning to social media for news on current events. Confirming this, conclusions from the Reuter Institute's Digital News Report for 2023 reveal higher usage rates of social media sources (MY=74%, ID=65%, SG=58%, IN=52%), exceeding that of TV (MY=46%, ID=54%, SG=44%, IN=49%) and print (MY=19%, ID=15%, SG=22%, IN=40%) (Newman et al., 2023). Furthermore, recent intensified efforts by social media platforms such as Facebook and Instagram to combat misinformation (Allcott et al., 2019; Guess et al., 2019), which has been found to be effective with misinformation on Facebook decreasing steadily since 2016 (Guess et al., 2019; see also Neyazi et al., 2022), may further increase the appeal of SMPs by bolstering their perceived trustworthiness in the public's eye. The finding of a positive association

between traditional media and trust in AI only in the context of Singapore is also interesting, as it highlights the enduring reliability of traditional media as a credible source of news and information about AI in the eyes of Singaporeans (Rekhi, 2019).

The finding of a positive association between trust in AI and information seeking behavior on social media—and, to a lesser extent, in traditional media—may be attributed to the APAC countries' robust adoption of AI in recent years. In fact, an industry report forecasted that the Asia Pacific region would experience the fastest growth in the AI market from 2022 to 2030 (Precedence Research, 2023). These optimistic projections are largely influenced by recent initiatives and investments from both governments and private sectors in the APAC region. Examples of such broad national frameworks include Singapore's National AI Strategy (The International Institute of Communications, 2020), Malaysia's National Artificial Intelligence Roadmap 2021-2025 (Tan, 2022), Indonesia's blueprint guiding artificial intelligence development (Iswara, 2020), and India's discussion paper that outlines its national AI strategy (Ravi, 2018). Media coverage of these programs potentially plays an important role in spotlighting the positive impacts of AI, preparing local economies for future challenges, and thus instilling a more favorable perspective of AI among the public. Furthermore, it's worth noting that these APAC countries are recognized for their controlled media environments. This is evident from the relatively low rankings they received in the 2023 Press Freedom Index (MY=73rd, ID=108th, SG=129th, IN=161st) (Reporters Sans Frontières, 2023). The existing media restrictions in these countries might limit AI-related coverage to align more closely with government-endorsed narratives.⁹

Our study also found that among participants more concerned about online misinformation, those who rely more on traditional media for news and information about AI

⁹ The four APAC countries in our study provide interesting and relevant contexts with regard to state media control. See Appendix 9 for more details.

tend to trust AI less, whereas those more engaged with social media tend to trust AI more. This difference in the moderation effect's direction might be attributed to differences in the volume of news consumption from both sources, influenced by individuals' perceptions of online misinformation. A study on media credibility by Hameleers et al. (2022) revealed that individuals who perceive higher levels of misinformation typically engage less with traditional TV news and more with social media. Hence, those seeking news and information about AI on traditional media less as a result of heightened concerns about misinformation online tended to be less exposed to the positive framing effects on AI from media coverage and thus have less trust in AI as a result; the opposite seems true for social media.

Another perspective suggests that traditional media are typically renowned for implementing more rigorous measures to ensure content quality (Neyazi et al., 2022). These include the hiring of professional journalists, using trustworthy sources, and implementing fact-checking and stringent quality control processes. Such attributes could potentially cultivate and promote critical thinking among their audience more so than those predominantly relying on social media. Hence, one could infer that utilizing traditional media might equate to less exposure to misinformation. Consequently, among respondents who rely on traditional media, those more concerned about misinformation might be better equipped to discern the elevated risks associated with AI, leading to lower trust. However, not all forms of media-related literacy interventions are found to be equally effective: when compared against media literacy, news literacy and digital literacy, only information literacy (the ability to navigate the online space to find verifiable and credible information) significantly contributed to fake news detection ability (Jones-Jang et al., 2021). Future scholars could further disentangle these various conceptualizations of media-related literacy and analyze them separately when studying the effect of media use on trust in AI.

News media coverage of AI remains heavily influenced by industry sources. It is vital for news outlets to incorporate diverse voices that will contribute to a rich and substantive public debate around AI (Brennen, Howard & Nielsen, 2018). Such a robust public discourse on the pertinent issues surrounding AI can pave the way for a well-informed citizenry. These citizens would then be better positioned to weigh the benefits and risks of AI, leading to more discerning evaluations of trust. Ensuring news coverage encompasses diverse views on AI is paramount, as the media play a pivotal role in molding public perceptions of AI. Journalists have a duty to report on emerging technologies with objectivity and accuracy. However, Dunwoody (2014) suggests that journalists often sensationalize AI's risks, portraying it as harmful and a threat to society. Nader et al (2022) found that news media coverage of AI in the US often leads people to believe that AI could result in widespread surveillance. Interestingly, while news media in Western contexts like the US have become vigilant of AI advancements, the narrative in other regions, such as China, have been found to be complimentary, lauding AI for their key role in driving economic growth and extending global influence (Cui & Wu, 2021; Nguyen & Hekman, 2022). These findings highlight the asymmetry in media reporting on AI across countries and underscores the need for fair, accurate and unbiased journalism on this timely topic.

It is also worth mentioning that since late 2022, the representation of AI within news narratives has undergone a dramatic shift with the emergence of ChatGPT and other large language models, which helped transform the perception of AI from a mere product of science fiction to a technology with myriad practical applications. Indeed, recent research revealed that mainstream media tended to portray ChatGPT and AI more positively, and often overlooked its implications on relevant topics such as employment, diversity and ethics (Karanouh, 2023). Interestingly, this shift in perception postdates our survey and therefore it's premature to deduce

its precise impact on public trust in AI. Nevertheless, the data from our survey will thus act as a crucial baseline in evaluating the level of trust in AI prior to this upswing in public interest.

In studying the relationship between media usage and trust in AI, ideological stances play a crucial role too as media outlets tend to frame stories on scientific innovations in accordance with their politics and importantly, audiences prefer ideologically aligned media which they also trust (Dunlap & McCright, 2011; Feldman et al., 2012). These media frames subsequently play an important role in audiences' formation of judgement about unfamiliar issues through the affordance of heuristics or “cognitive shortcuts” that facilitate efficient processing of new scientific information (Scheufele & Lewenstein, 2005). Partisan cues have been shown to induce perceptions of technological bias among ideologically opposed individuals (Calice et al. 2021). Amid these concerns, we believe that fostering trust in AI is crucial, considering its transformative potential. However, this should not overshadow the risks associated with it. Efforts to build trust must go hand-in-hand with measures to mitigate potential misuse and educate the public about both the benefits and risks of AI.

Finally, an emerging theme is that social media has become a central channel for news consumption, including for information about new technologies. This shift towards social media raises important questions for future research as these channels increasingly frame opinions on salient issues of the day. However, this has also raised concerns about the spread of misinformation and fake news, given that research suggests social media users are more likely to encounter misinformation (Newman et al., 2023). Social media algorithms, which prioritize engagement and virality, often amplify sensational and false content, contributing to the spread of conspiracy theories, propaganda, and other harmful information. For example, in recent years, the discourse on AI surpassing human efficiency has become a “trope in news coverage” (Bunz and Braghieri 2022; Nguyen & Hekman, 2022). Hence, the responsibility falls on users to be cautious when seeking information about new technologies; users should

seek out news from a variety of sources or at least trusted sources to ensure they are not misinformed about debates on new technologies. The silver lining is the finding that seeking information about AI through social media does not decrease trust in AI. This could be because social media platforms have taken several steps to ensure that their platforms are not misused by malicious actors. Therefore, as modern news audiences come to increasingly rely on social media, our study highlights the nuances of its implications for trust formation towards emerging technologies.

There are several limitations of this study. The first is that our findings rely on data from a cross-sectional survey and not an experiment; hence, we can only go so far as to establish associations but not causation. Future studies seeking to establish causal relationships could design an experiment to investigate these effects. The second is that our measure of information seeking behavior on social and traditional media rely on self-reports from the respondents. Such measures have been known to be biased due to false recall rates. Though we have taken some efforts to mitigate such issues through the use of more specific options for the question such as "Multiple times a day," "Once a day" and etc., this risk remains present in our study. One suggestion for future research includes designing a longitudinal study that incorporates behavioral data such as cookies to observe browsing activity to more accurately capture news media usage online. Third, our sample is nationally representative only for Singapore; in contrast, the data for India, Indonesia and Malaysia are representative of the online population. These contextual differences should be kept in mind when interpreting the results.

Notwithstanding these limitations, our study makes three important contributions to the existing literature. First, the findings from our study corroborates previous research by providing support for the enduring influence of mass media in shaping audience attitudes and perceptions towards new technologies. Crucially, our study brings new insights by showing

that such influences also extend to artificial intelligence, which is unlike previous technological innovations due to its ostensible anthropomorphic features and capability for rich social interactions. Second, we find evidence of the prominence of social media over traditional media in shaping these opinions and attitudes; these reflect changing news consumption habits of the modern public, which tends to increasingly rely on social media as their main source of news and information (Newman et al., 2023). This raises questions into the mechanisms by which social media frame and emphasize certain issues over others in the eyes of online audiences (which could be explored further in future research). Third, we also find evidence suggesting meaningful differences between audiences that rely on traditional and social media: concern about misinformation is found to weaken the positive association between information seeking behavior on traditional media and trust in AI whereas for social media, it was found to strengthen the positive association with trust in AI. This suggests there may be an element of critical thinking on the part of the traditional media audience when it comes to assessing risks which ultimately affects judgements of trust.

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Table 1. Determinants of Trust in AI

	Malaysia		Indonesia		Singapore		India	
	(I) No Mod	(V) With Mod	(II) No Mod	(VI) With Mod	(III) No Mod	(VII) With Mod	(IV) No Mod	(VIII) With Mod
Information Seeking Behavior About AI on Traditional Media	0.017 (0.021)	0.014 (0.062)	-0.005 (0.020)	-0.030 (0.064)	0.052* (0.021)	0.144** (0.048)	-0.006 (0.025)	0.015 (0.054)
Concern About Misinformation × Information Seeking Behavior About AI on Traditional Media		0.003 (0.086)		0.037 (0.090)		-0.153* (0.072)		-0.027 (0.079)
Information Seeking Behavior About AI on Social Media	0.083** (0.025)	0.000 (0.070)	0.088*** (0.024)	0.032 (0.074)	0.074** (0.024)	-0.066 (0.054)	0.118*** (0.029)	0.015 (0.060)
Concern About Misinformation × Information Seeking Behavior About AI on Social Media		0.125 (0.097)		0.076 (0.100)		0.235** (0.080)		0.171* (0.086)
Concern About Misinformation	-0.035+ (0.018)	-0.093** (0.034)	-0.033 (0.020)	-0.100* (0.047)	0.024 (0.018)	0.005 (0.029)	-0.002 (0.015)	-0.095* (0.038)
Faith in AI	0.611***	0.603***	0.582***	0.580***	0.694***	0.688***	0.525***	0.516***

	(0.034)	(0.035)	(0.033)	(0.033)	(0.031)	(0.031)	(0.033)	(0.033)
Engagement with AI	0.084***	0.083***	0.095***	0.095***	0.091***	0.089***	0.118***	0.119***
	(0.025)	(0.025)	(0.024)	(0.024)	(0.024)	(0.024)	(0.024)	(0.024)
Female	-0.017+	-0.017+	0.015+	0.016+	-0.007	-0.007	0.020*	0.018*
	(0.009)	(0.009)	(0.008)	(0.008)	(0.009)	(0.009)	(0.009)	(0.009)
Age	-0.041	-0.040	0.018	0.017	-0.013	-0.014	-0.005	0.001
	(0.025)	(0.025)	(0.023)	(0.023)	(0.020)	(0.020)	(0.024)	(0.024)
Education	-0.068*	-0.071**	-0.017	-0.016	-0.043*	-0.047*	0.031	0.026
	(0.027)	(0.027)	(0.031)	(0.031)	(0.021)	(0.021)	(0.027)	(0.027)
Income	0.052**	0.050**	0.052***	0.051***	0.018	0.014	-0.004	-0.004
	(0.019)	(0.019)	(0.015)	(0.015)	(0.020)	(0.020)	(0.021)	(0.021)
Intercept	0.179***	0.226***	0.108***	0.158***	0.058*	0.078**	0.164***	0.224***
	(0.027)	(0.035)	(0.028)	(0.043)	(0.025)	(0.030)	(0.026)	(0.035)
<i>N</i>	1046	1046	1066	1066	1039	1039	1084	1084
Adjusted R^2	0.389	0.391	0.399	0.399	0.519	0.522	0.400	0.404
<i>F</i>	74.995***	61.876***	79.597***	65.379***	125.538***	104.141***	81.241***	67.652***
AIC	-1089.4	-1089.7	-1284.9	-1283.4	-1104.6	-1109.2	-1083.1	-1087.7
BIC	-1034.9	-1025.3	-1230.2	-1218.8	-1050.2	-1044.9	-1028.2	-1022.8

Change in Adjusted R^2	0.002	0	0.003	0.004
Comparison of Nested Models: <i>F</i> -test Statistic	2.114	1.237	4.268*	4.273*

+ $p < 0.1$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

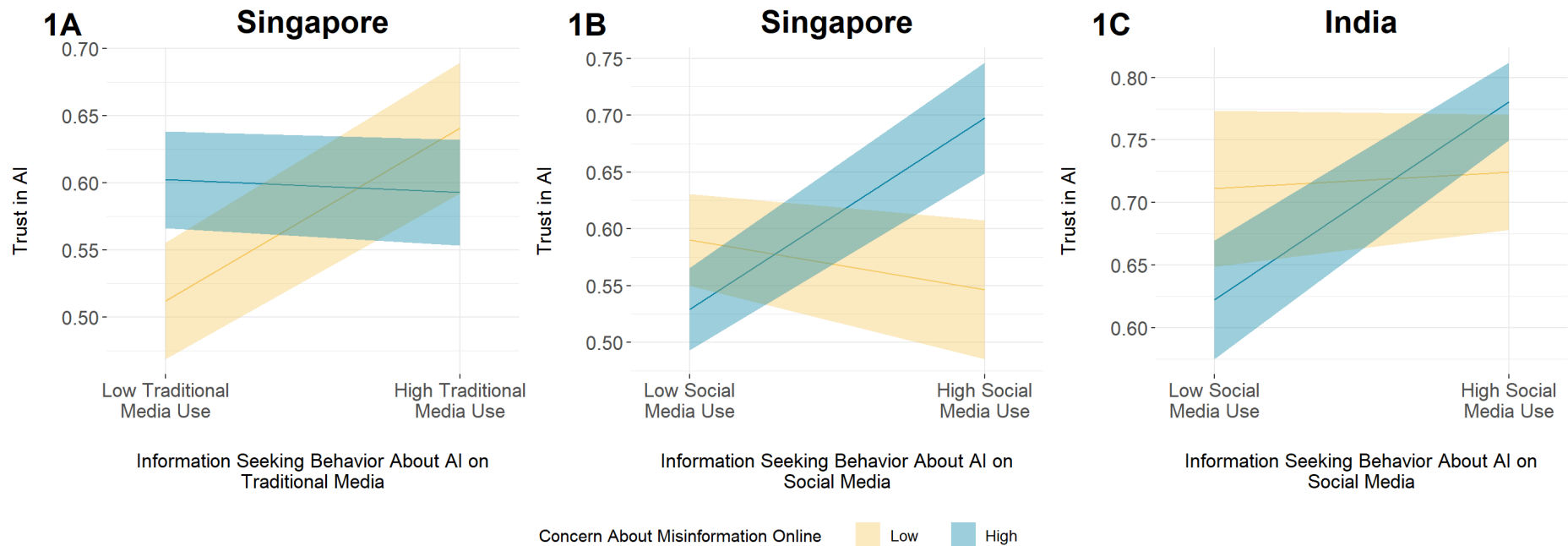


Figure 1A. Moderation of the effect of information seeking behavior about AI on traditional media on trust in AI by concern about misinformation online in the context of Singapore.

Figure 1B. Moderation of the effect of information seeking behavior about AI on social media on trust in AI by concern about misinformation online in the context of Singapore.

Figure 1C. Moderation of the effect of information seeking behavior about AI on social media on trust in AI by concern about misinformation online in the context of India.

Note. Low and high values for variables correspond to two standard deviations below and above the mean, respectively. Any values outside the range of possibility (0-1) are replaced by the end values (i.e., 0 or 1).