Research on the Influence of Virtual Adviser Identity Disclosure on Users' Adoption Intention

Ying Zhu[✉]

School of Business Administration, Zhejiang Gongshang University, Hangzhou, Zhejiang, People's Republic of China
xhjj1779261139@163.com

Abstract. With the development of artificial intelligence and machine learning technology, virtual adviser provides users with a new way to seek help and decision support. This technology has great advantages in efficiency and decision accuracy, but its application is also facing challenges - the customer pushback caused by machine identity disclosure. Based on Task-Technology Fit Theory, this study proposes a research model to test the impact of the matching between identity disclosure and task types on user trust and adoption intention. We propose a 2 (virtual adviser identity disclosure: disclosure vs. non-disclosure) × 2 (task type: objective task vs. subjective task) experiment. This study uses SPSS25.0 analysis software to find that identity disclosure will have a significant impact on users' adoption intention, trust plays a mediation role, and produces differentiated results in different task types. The experimental results of this study will provide theoretical and practical guidance for service providers to understand user psychology and deploy virtual services.

Keywords: Virtual adviser · Identity disclosure · Task type · Trust · Adoption intention

1 Introduction

In recent years, with the development of artificial intelligence (AI) and machine learning technology, there is a trend of providing intelligent advisory services on various innovative service delivery platforms. These platforms have always been an important channel for organizations to promote products and provide services online [15]. In the past, people often sought advice and recommendations on decision-making from familiar friends and expert consultants, while the development of big data provides a new way for consumers to provide services and decision-making help, that is, consumers can consult virtual advisers online. It is not difficult to find that e-commerce websites and mobile apps are equipped with virtual advisers to provide users with recommendation or consulting services. Although these websites and mobile applications have great differences in appearance, service content and complexity, they all try to reduce consumers' search cost and information processing load, improve the efficiency of consumer decision-making [23]. For example, the financial virtual adviser equipped by financial websites or online

banks, also known as intelligent investment advisers, provides customers with automatic investment and financial management suggestions through algorithm programs according to customers' risk preferences and investment needs and in combination with market changes. Its purpose is to provide customers with suggestions more efficiently and accurately. Examples of commercial virtual advisers also include sales assistants in various shopping malls, such as Anna, an intelligent shopping assistant equipped by IKEA. Anna relies on algorithms to search product information, evaluate alternative products and provide product suggestions to consumers. In addition, in the field of health care, there is also a trend of virtual advisers providing public health information services, which provide medical advice on various health topics [15].

Virtual adviser shows great application prospects. It not only reduces the labor cost of service providers, improves service efficiency, but also provides higher convenience for users to seek decision support. In particular, AI algorithm, the technical support of virtual advisers, can bring expert accuracy and significant cost and efficiency advantages [18]. For example, in the tasks of diagnosing complex diseases, driving cars and providing legal advice, the accuracy of the algorithm can even surpass that of human experts. Although this technology shows great advantages and convenience, its application is not as smooth as expected, it faces a big challenge - customer pushback, that is, after users realize the non-human identity of service providers, they will have a psychological resistance, which is due to users' subjective belief that machines and algorithms lack professional ability and human emotion. At present, the research on identity disclosure is still in its infancy. Some studies have paid attention to the negative effects of identity disclosure, but have not yet discussed in depth to alleviate the negative effects of identity disclosure strategies and methods to optimize disclosure to improve user acceptance and use. In addition, the research on virtual adviser mostly focuses on the impact of virtual adviser's service value, communication style and image design on users' use, and lacks attention to the impact of virtual adviser's machine identity on users' use and suggestion adoption. In view of the relative lack of research in this field, this study intends to explore positive identity disclosure strategies to reduce users' prejudice against this technology and provide theoretical and practical guidance for enterprises to layout intelligent advisory services. Specifically, we will answer the following questions: how does the identity disclosure of virtual advisers affect users' willingness to adopt virtual advisers' suggestions?

2 Related Literature

2.1 Virtual Adviser and Intelligent Advisory Services

In various websites and mobile applications, virtual advisers are increasingly used to provide people with real-time consulting services. The virtual adviser is mainly designed to realize the user's functional goal, that is, to solve the user's doubts and provide decision support. Virtual advisers have gradually become an important source of innovation for enterprises to win the favor of consumers [10]. It has been found that virtual adviser can not only reduce the user information search cost, reduce the massive information processing load, improve the user's decision-making quality and efficiency, but also improve the enterprise's efficiency of serving users and reduce the service cost. In view

of the benefits that virtual advisers bring to users and enterprises, at present, intelligent advisory services have been widely distributed in marketing, medical treatment, finance and other fields. For example, IBM has developed a virtual medical adviser for fighting cancer - Waston. Through machine learning, Waston provides customized information and treatment suggestions for each patient. Alice, released by Dell and circular board, is the world's first artificial intelligence virtual consultant customized for female entrepreneurs. Through the analysis of big data, Alice can connect the required resources in real time for female entrepreneurs, and customize targeted content in combination with entrepreneurial stage, industry, location, income and personal needs.

The main role of virtual advisers is to provide targeted content and personalized suggestions to their users. Therefore, the accuracy of decision-making and recommendation is the premise for the wide application of virtual advisers and the research key in academia [14]. In fact, virtual advisers rely on Algorithms and have sufficient ability to bring personalized and accurate suggestions and recommendations to users. The accuracy of algorithm prediction and decision-making was concerned by some scholars as early as the middle of the 20th century. Dawes et al. [3] pointed out that the prediction ability of simple linear regression model can surpass human experts. Since then, with the rapid development of algorithm, its application has gradually expanded to disease diagnosis [5], car driving, legal consultation. In employee recruitment and other affairs, its performance also surpasses human experts in more and more affairs [9]. The algorithm can also perform some subjective tasks. For example, the algorithm can analyze and record the user's real-time emotion by detecting the user's facial action. The decision accuracy of the algorithm based virtual adviser has also been confirmed in many fields. For example, Longoni pointed out that in the field of health care, the performance of the medical virtual adviser Waston in diagnosing cancer is better than that of the human doctor [18]. Waston found that the human doctor missed the best medical choice in 30% of cases. In addition, the accuracy of disease diagnosis and triage diagnosis made by medical virtual advisers has exceeded that of human doctors. To sum up, the accuracy of recommendation and decision-making of virtual advisers has reached the level of human experts in many fields, and even surpassed human experts.

2.2 Research on Identity Disclosure

Even though virtual advisers show many advantages in accuracy and cost-effectiveness, the adoption and implementation of this technology depends on their consumers. At present, AI, including virtual advisers, is generally facing a big dilemma - customer pushback. The main performance is that users are unwilling to use intelligent advisory services. When users are faced with the choice of manual services and virtual services, people tend to rely on humans, even if they will face lower accuracy and greater risk [2]. Dietvorst et al. [4] summarized this phenomenon as algorithm aversion, which means that even if the evidence-based algorithm can predict the future more accurately than the human predictor, people will still choose the human predictor when facing the choice of human and algorithm, and when the algorithm and human make the same mistakes, people are more likely to lose confidence in the algorithm. The field experiment data of Luo also show that when people know the non-human identity of the service provider, the dialogue will become stiff and the purchase will be reduced, because people subjectively

think that there is less AI knowledge and compassion to disclose the identity, although the data prove that AI has sufficient objective ability [19]. Its efficiency is four times that of inexperienced employees, and its working ability is the same as that of skilled employees. This shows that the negative disclosure effect caused by machine identity is driven by human subjective prejudice against machines, not due to the lack of ability of AI [19]. Since then, some scholars have supplemented the research on the negative effects of identity disclosure. Mozafari et al. [21] considered the task type in the research of identity disclosure effect, and pointed out that the identity disclosure effect is related to service results and task types. The research found that users do not exclude the use of AI in routine issues. However, in critical issues, due to user's concerns about the ability of AI, revealing the machine identity will damage user trust, reduce customer loyalty and lead to customer churn. In addition, some scholars pointed out that users believe that AI is more competent than human beings for low creative product recommendation, so they show a higher willingness to adopt AI recommendation in low creative product recommendation. From what has been discussed above, users' use and recommendation adoption of virtual advisers are affected by the interaction of machine identity and task type.

Throughout the current research on identity disclosure, existing studies mainly focus on the accuracy of virtual adviser services, the negative effects and causes of identity disclosure, and ignore the impact of virtual adviser's machine identity disclosure on users' willingness to adopt suggestions. In fact, virtual adviser is designed to assist users in decision-making. Users' willingness to adopt has always been an important indicator to measure whether enterprises successfully implement the technology. However, at the moment of the gradual popularity of virtual services, there is a lack of research on identity disclosure strategies to improve users' adoption intention. Therefore, this study will focus more on the impact mechanism of virtual adviser's identity disclosure on users' willingness to adopt suggestions, with special attention to the moderating role of task types, in order to help service providers better apply and promote this technology.

3   Research Hypotheses and Model Development

3.1   Impact of Identity Disclosure on Users' Adoption Intention

With the technology becoming more and more complex and perfect, virtual advisers are more and more capable of pretending to be adults, which makes it difficult for users to judge the identity of service providers, and makes enterprises face the choice of whether to disclose the identity of virtual advisers. Existing studies have revealed the dilemma faced by disclosing machine identity. Although the performance is the same, robots that disclose (vs. do not disclose) their identity will bring great negative reactions, and the cost of identity transparency is very high. For example, Ishowo-oloko et al. [12] conducted a behaviour experiment in which participants repeatedly played the prisoner's dilemma game with humans or robots, Participants are told the true or wrong information of their players. The results show that robots are more capable of inducing cooperation, but when participants know their true nature, the efficiency advantage of cooperation will be offset by the negative effect of identity disclosure, which indicates that robot identity transparency will be at the cost of reducing cooperation efficiency.

Similar conclusions have been found in the field of marketing. Identity disclosure will lead to stiff dialogue and lower purchase rate. This is caused by the user's subjective prejudice against the virtual adviser. The user subjectively believes that the cognitive flexibility of the virtual adviser is not as flexible as human beings, and lacks professional knowledge and human emotion. Therefore, in order to avoid user exclusion or discomfort, some service providers did not actively disclose the machine identity of the virtual adviser. For example, the telecom operator Vodafone did not disclose the non-human identity of the virtual adviser "Julia". The use of personified identity is a common way to enhance humanity and hide identity [7]. The main method is that the virtual adviser introduces himself by human name or human identity and role. Human beings tend to perceive things through labels and use the main attributes on labels in order to minimize cognitive efforts when making judgments or forming impressions. The chat robot displays anthropomorphic identity clues to users, such as giving people names, it can inspire users to human beings [24]. Users may judge the agents they talk to as human based on the human identity clues displayed by the virtual adviser, so users are more likely to evaluate the performance quality of agents based on their expectations of human agents, which will fundamentally eliminate the negative effects caused by identity disclosure. It is worth noting that the performance of the virtual adviser needs to meet the expectations of users, otherwise it is easy to cause the expectation violation effect and cause more negative results. Therefore, this study puts forward the following assumptions:

H1: The disclosure of virtual adviser identity (vs. non-disclosure) will have an impact on users' adoption intention.

3.2   The Mediation Effect of Trust

Some studies on identity disclosure try to explain the negative bias. A common argument is that users lack trust in intelligent devices such as virtual advisers. Trust refers to people's willingness to rely on confident trading partners [20]. Nowadays, virtual advisers gradually play the role of human beings and perform the affairs previously undertaken by human beings. Therefore, this study extends trust to people's positive expectation of virtual adviser behaviour and willingness to rely on virtual adviser. People's cognition of virtual adviser's ability is an important factor affecting trust. As we all know, there are significant differences in ability between human and virtual adviser, especially virtual adviser's lack of emotional ability. People think that virtual advisers lack empathy and can only solve the problems of standardization and repeatability, so they have a negative attitude towards this technology and distrust virtual advisers [22]. Studies have shown that disclosing the identity of virtual advisers will have a negative impact on users' psychology and behaviour [2, 21]. Therefore, this study agrees that the identity disclosure of virtual advisers will affect user trust.

In addition, previous literature shows that trust has a positive impact on adoption intention. When people trust themselves, others or other subjects psychologically, it will effectively enhance their positive psychological experience and show higher acceptance and evaluation. Therefore, this study puts forward the following assumptions:

H2: Trust plays a mediating role in the impact of virtual adviser identity disclosure on adoption intention.

3.3 The Moderating Effect of Task Types

This study introduces the objectivity of tasks. According to the objectivity of tasks, tasks are divided into objective tasks and subjective tasks. For the definition of task type, refer to the research of Castelo [2]. Objective task is defined as a task involving quantifiable and measurable facts, and subjective task is defined as an open interpretable task based on personal point of view or intuition. Solving different tasks requires different abilities. People believe that dealing with objective tasks requires logic, rationality and rule-based analysis, while subjective tasks require "intuition" [11]. There are great differences in capabilities between virtual advisers and humans. Previous studies have pointed out that users' perceived virtual adviser capabilities and service preferences are related to task types. For example, virtual advisers are more competent in standardized and repetitive tasks and lack the ability to deal with creative tasks. Castelo show that whether users dislike or favor algorithms depends on the task type. In objective tasks, users trust and favor algorithms more [2]. Logg [17] found similar conclusions, pointing out that humans rely more on algorithms than humans in digital tasks with objective and correct answers. Longoni [18] also pointed out that patients are unwilling to accept the advice of medical virtual advisers out of concern about the neglect of uniqueness.

Task-Technology Fit Theory helps us understand the phenomenon of users' different preferences for service providers. Task-Technology Fit Theory emphasizes the matching degree between technical capabilities and task requirements [8, 25]. The greater the difference between task characteristics and technical characteristics, the lower the task technology fitting degree and technology value perceived by users. On the contrary, the high task technology fitting degree will positively affect users' value perception and capability perception of technology, so as to improve technology use efficiency, trust in technology and use intention [13, 16]. To sum up, task type may play a moderating role in the impact of virtual adviser identity disclosure on user trust and adoption intention. Specifically, in objective tasks, users will think that the capabilities of virtual advisers have a higher fitting degree with tasks, trust their services more, and then are more willing to accept the services of virtual advisers. Therefore, in objective tasks, the direct disclosure of machine identity by virtual advisers will help to enhance users' trust and enhance users' willingness to make suggestions or recommendations. Therefore, this study puts forward the following assumptions:

H3a: In objective tasks, the disclosure of virtual adviser identity will trigger users' higher willingness to adopt than non-disclosure.

H3b: In objective tasks, compared with non-disclosure, the disclosure of virtual adviser identity will effectively enhance users' trust and trigger users' higher willingness to adopt.

On the other hand, users subjectively believe that virtual advisers lack the emotional ability to deal with subjective tasks. According to the Task-Technology Fit Theory, in subjective tasks, users perceive a low degree of task technology matching, and users may not be willing to trust and use this technology. Therefore, this study assumes that in subjective tasks, the disclosure of virtual adviser identity will significantly reduce users' trust and use, and negatively affect users' willingness to adopt their recommendations or suggestions. When the virtual uses the anthropomorphic identity for self-introduction, that is, the machine identity is not disclosed, the user may judge the virtual adviser
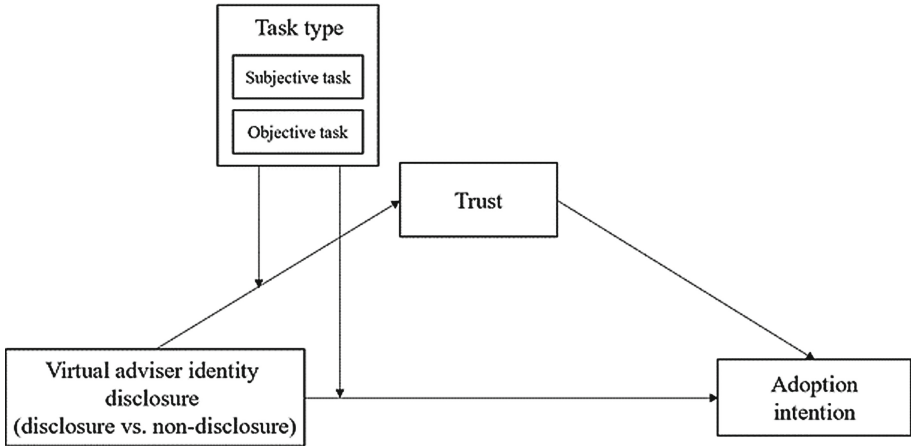
Fig. 1. Theoretical Model

he talks with as human based on the anthropomorphic identity clue, then the user is more likely to evaluate the performance quality of the virtual adviser based on their expectations of the human agent, which will weaken the user's stereotype of the virtual adviser. Therefore, this study puts forward the following assumptions:

H3c: In subjective tasks, the disclosure of virtual adviser identity will reduce users' willingness to adopt compared with non-disclosure.

H3d: In subjective tasks, compared with non-disclosure, the disclosure of virtual adviser identity will reduce users' trust and users' willingness to adopt.

To sum up, the theoretical model of the impact of virtual adviser identity disclosure on users' adoption intention proposed in this study is shown in Fig. 1.

4   Experimental Design

The goal of the experiment is to verify how the identity disclosure of virtual advisers affects users' trust and adoption intention in different task types. To test this, this study designed a 2 (virtual adviser identity disclosure: disclosure vs. non-disclosure) × 2 (task type: objective task vs. subjective task) experiment.

In order to control the objectivity of tasks, we first conducted a pre-experiment before the formal experiment. The purpose of pre-experiment is to determine the subjective and objective tasks selected for formal experiment. This study selects two intelligent advisory services that are widely used in daily life, one is intelligent investment adviser, the other is virtual sales adviser. In the pre-experiment, we asked participants to read the following two scenarios respectively: 1. Imagine that you are considering a short-term financial management with your spare money. You find that the financial management app you use provides a consulting service, which can help users recommend appropriate financial products or suggestions in combination with users' risk preferences and investment needs. 2. Imagine that you are considering adding some furniture to your bedroom. You find that the shopping website you use provides a product recommendation service, which

can help users recommend appropriate products in combination with users' preferences and needs. In the pre-experiment, we not only measured the objectivity of the task, but also measured the creativity of the task and the user's familiarity with the task. After the subjects were asked to read the experimental materials, all subjects were asked to evaluate the objectivity, creativity and familiarity of the two recommended tasks respectively. Likert 7 scoring method was used for all measurement questions. The item measuring objectivity is "how objective do you think the task itself is?", 1 is not objective at all, 7 is very objective. The item measuring creativity is "how much creativity do you think this task needs?", 1 means it don't need creativity at all, 7 means it need creativity very much. The item measuring familiarity is "how familiar do you think you are with this task?", 1 means not familiar at all, 7 means very familiar. Finally, we measured the subjects' age, gender, education and other information.

Since each subject read the two scenes, we used paired sample t-test for analysis to compare the objectivity, creativity and familiarity. The results of paired sample t-test show that, the objectivity of financial management task was significantly higher than that of sales recommendation task (M financial management = 4.91, M sales = 3.66, t = 5, p < 0.001). There was no significant difference in creativity and familiarity between the two recommendation tasks (creativity: M finance = 4.50, M sales = 4.97, t = −1.906, p > 0.05); familiarity: M finance = 4.22, M sales = 4.44, t = −0.575, p > 0.05). The objectivity of furniture recommendation task is significantly lower than that of financial management task. M sales = 3.66, which is close to the median value of 7-point evaluation method. Therefore, this study regards it as a subjective task. In conclusion, the objectivity of financial recommendation task is significantly higher than that of furniture recommendation task, and there is no significant difference in creativity and familiarity between the two tasks. The formal experiment takes financial recommendation task as the experimental material of objective tasks and furniture recommendation task as the experimental material of subjective tasks.

In the formal experiment, we designed a 2 (virtual adviser identity disclosure: disclosure vs. non-disclosure) × 2 (task type: objective task vs. subjective task) experiment. We designed four example dialogues according to whether the identity was disclosed and the task type, which were presented to the subjects in the form of pictures, and the subjects were randomly assigned to four groups of experiments. For example, in the objective task, if the identity of the virtual adviser is disclosed, the subjects will see a group of conversations between the user and the virtual financial adviser. At the beginning of the conversation, the virtual financial adviser will introduce to the user: "welcome to consult the intelligent investment adviser, what can help you". Without disclosing the identity of the virtual adviser, the financial virtual adviser introduces to the user: "welcome to consult, I'm berry, what can I help you". After watching the sample dialogue, we will use the form of questionnaire to measure their objectivity of the task, their trust in the virtual adviser and their willingness to adopt recommendations. For the scale of trust, this study refers to the research of Bhattacherjee [1] and uses the following six items: "In the above scenario, the dialogue partner has the necessary skills to provide services.", 1 means not agree at all, 7 means very agree; "In the above scenario, the dialogue partner can obtain the information needed to fully process my service request", 1 means not agree at all, 7 means very agree; "In the above scenario, the processing of

my service request by the dialogue partner is fair", 1 means not agree at all, 7 means very agree; "In the above scenario, the dialogue partners have a high degree of integrity", 1 means not agree at all, 7 means very agree; "In the above scenario, the dialogue partner accepts my service request", 1 means not agree at all, 7 means very agree; "In the above scenario, the dialogue partner tries to meet my service request", 1 means not agree at all, 7 means very agree. For the measurement of adoption intention, this study refers to the research of Fridin [6], adopts Likert 7-point scoring method, and uses the following two questions: "To what extent do you follow the suggestions of your dialogue partners in the above scenario?", 1 is unwilling to comply at all, 7 is very willing to comply and "To what extent do you accept the suggestions of your dialogue partners in the above scenario?", 1 is unwilling to accept at all, 7 is very willing to accept.

5   Results and Discussion

In terms of analysis methods, this study uses SPSS analysis software to test hypotheses. We used independent sample t-test to analyze the main effect. The analysis results showed that the independent variable showed 0.001 level significance for the dependent variable (M disclosure = 5.05, M non-disclosure = 5.43, t = 3.442, p < 0.001). This shows that virtual adviser identity disclosure will have a significant impact on users' willingness to adopt suggestions, and users' willingness to adopt suggestions is lower in the context of identity disclosure than that of non-disclosure. For the analysis of mediation effect, this study uses the process plug-in of SPSS software, selects the mediation analysis model, namely model 4, and adopts 5000 repeated sampling. The results show that trust plays a mediating role in the impact of identity disclosure on users' adoption intention. In order to test the moderating effect, this study uses the process plug-in of SPSS software for analysis, selects the mediation analysis model with regulation, and uses 5000 repeated sampling. The results show that the mediation role is inconsistent in different task types, indicating that the task type has the role of moderate. In subjective tasks, identity disclosure significantly reduces users' trust and willingness to adopt compared with non-disclosure. This shows that in subjective task, virtual advisers can use anthropomorphic identity to alleviate the negative impact of machine identity on trust and user adoption intention.

6   Conclusion and Prospect

This study aims to test when the identity of virtual advisers should be disclosed and how to use identity information disclosure to provide the highest benefits for intelligent advisory services. Firstly, this study improves the research on identity disclosure. Most of the previous studies focus on the negative effects of identity disclosure. The interaction between identity disclosure and task types will expand the applicability of identity disclosure. Specifically, we expect that the disclosure and non-disclosure of virtual adviser identity are suitable for different types of tasks. This will help intelligent advisory services providers to deploy virtual advisers more effectively and create higher service efficiency. Secondly, the experimental results of this study are expected to provide insights on how users respond to virtual adviser identity disclosure in psychology

and behavior. By studying the impact of identity disclosure on users' trust and rec-ommendation adoption intention, this study reveals the impact mechanism, which will help marketing managers understand users' psychological activities more accurately and enable enterprise marketing managers to better grasp the use of this technology. Finally, this study is carried out in the Chinese context. Most of the current literature on identity disclosure comes from abroad, and domestic and foreign users have different cultural backgrounds, different consumption habits and ways of thinking. Therefore, this study will expand the domestic research on identity disclosure.

This study also has some limitations, such as lack of consideration of user personality. The experiment is mainly carried out through simulated use scenarios, which may be different from the actual use. Therefore, in the future, we can strengthen the consideration of these influencing factors and improve the conclusions of this study. In addition, the current research is also limited to whether to disclose in virtual services. For future research, we can further study the positive identity disclosure strategies, such as whether the identity disclosure time will affect users' use, so as to minimize negative reactions.

References

1. Bhattacherjee A (2002) Individual trust in online firms: scale development and initial test. J Manag Inf Syst 19:211–241
2. Castelo N, Bos MW, Lehmann DR (2019) Task-dependent algorithm aversion. J Mark Res 56:809–825
3. Dawes RM, Faust D, Meehl PE (1989) Clinical versus actuarial judgment. Science (Am Assoc Adv Sci) 243:1668–1674
4. Dietvorst BJ, Simmons JP, Massey C (2015) Algorithm aversion: people erroneously avoid algorithms after seeing them err. J Exp Psychol Gen 144:114–126
5. Esteva A et al (2017) Dermatologist-level classification of skin cancer with deep neural networks. Nature (London) 542:115–118
6. Fridin M, Belokopytov M (2014) Acceptance of socially assistive humanoid robot by preschool and elementary school teachers. Comput Hum Behav 33:23–31
7. Go E, Sundar SS (2019) Humanizing chatbots: the effects of visual, identity and conversational cues on humanness perceptions. Comput Hum Behav 97:304–316
8. Goodhue DL, Thompson RL (1995) Task-technology fit and individual performance. MIS Q 19:213–236
9. Highhouse S (2008) Stubborn reliance on intuition and subjectivity in employee selection. Ind Organ Psychol 1:333–342
10. Huang M, Rust RT (2018) Artificial intelligence in service. J Serv Res 21:155–172
11. Inbar Y, Cone J, Gilovich T (2010) People's intuitions about intuitive insight and intuitive choice. J Pers Soc Psychol 99:232–247
12. Ishowo-Oloko F, Bonnefon J, Soroye Z, Crandall J, Rahwan I, Rahwan T (2019) Behavioural evidence for a transparency–efficiency tradeoff in human–machine cooperation. Nat Mach Intell 1:517–521
13. Jarupathirun S, Zahedi FM (2007) Exploring the influence of perceptual factors in the success of web-based spatial DSS. Decis Support Syst 43:933–951

14. Leachman SA, Merlino G (2017) Medicine: the final frontier in cancer diagnosis. Nature (London) 542:36
15. Li M, Mao J (2015) Hedonic or utilitarian? Exploring the impact of communication style alignment on user's perception of virtual health advisory services. Int J Inf Manage 35:229–243
16. Lippert SK, Forman H (2006) A supply chain study of technology trust and antecedents to technology internalization consequences. Int J Phys Distrib Logist Manag 36:271–288
17. Logg JM, Minson JA, Moore DA (2019) Algorithm appreciation: people prefer algorithmic to human judgment. Organ Behav Hum Decis Process 151:90–103
18. Longoni C, Bonezzi A, Morewedge CK (2019) Resistance to medical artificial intelligence. J Consum Res 46:629–650
19. Luo X, Tong S, Fang Z, Qu Z (2019) Frontiers: machines vs. humans: the impact of artificial intelligence chatbot disclosure on customer purchases. Market Sci (Providence, R.I.) 38:937–947
20. Moorman C, Zaltman G, Deshpande R (1992) Relationships between providers and users of market research: the dynamics of trust within and between organizations. J Mark Res 29:314–329
21. Mozafari N, Weiger WH, Hammerschmidt M (2020) The chatbot disclosure dilemma-desirable and undesirable effects of disclosing the non-human identity of chatbots. In: Forty-First International Conference on Information Systems, pp 1–17
22. Nissenbaum H, Walker D (1998) Will computers dehumanize education? A grounded approach to values at risk. Technol Soc 20:237–273
23. Qiu L, Benbasat I (2009) Evaluating anthropomorphic product recommendation agents: a social relationship perspective to designing information systems. J Manag Inf Syst 25:145–182
24. S SS (2008) Digital, media, youth, and credibility. The MIT Press, Cambridge
25. Zigurs I, Buckland BK (1998) A theory of task/technology fit and group support systems effectiveness. MIS Q 22:313–334