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Strategic Planning Technology Validity Turing Tests Using Artificial Intelligence Understanding

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ABSTRACT

Turing test has been used as an artificial intelligence (AI) countermeasure for decades. This test measures a machine's capacity for intelligent behavior that is comparable to human capacity. However, Turing's trial has come under fire due to its emphasis on linguistic behavior and potential anthropological bias. The primary goal of this study was to determine whether the Turing Test's validity was connected with comprehension and disclosure of artificial intelligence's aim. The Likert scale was utilized for data gathering, statistical analysis using linear regression, and theoretical analysis. Both qualitative and quantitative research approaches will be used in this investigation. This study uses the Turing Test as a prism through which to examine the validity of strategic planning technologies. The study intends to evaluate the genuine knowledge of artificial intelligence and the potential for strategic planning of the technology by assessing an AI's capacity to impersonate human strategists in a Turing Test context. Reviews of the literature and conversations with authorities on the Turing Test and artificial intelligence will be used to gather qualitative data. This resulted in significant advancements in our knowledge of the variables influencing the Turing Test's validity, particularly with regard to comprehending and illuminating the function of artificial intelligence. It is anticipated that this research will yield a technical planning method that will help numerous fields and increase the validity of the Turing Test. This strategy will be grounded in the most recent knowledge about the operation of AI.

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1. INTRODUCTION

This article explains how AI has changed advertising, accelerated creative processes, and shown various applications and locations that make advertising easier. It also covers the use of chatbots, object recognition, optimal media selection, and how AI shapes today's advertising landscape. This discussion covers technological advances and the phenomenon of the ease of use of AI in advertising [1][2]. People see rapid technological advances, especially in the field of artificial intelligence (AI), on the threshold of a new era. AI brings unimaginable opportunities and obstacles [2][3]. On the one hand, AI raises concerns about its potential negative impact on the workplace, privacy, and even human existence itself,

but also offers innovative solutions to a range of global problems, such as health and climate change [1][4]. The journey of AI is full of mysteries and possibilities [5]. Because of this introductory word, you can begin your journey into the world of artificial intelligence that is full of magic and complexity[6]. Let's study deeper what artificial intelligence is, how it works, and how it affects human lives[2]. Artificial intelligence has undergone significant progress in recent decades, with systems capable of performing increasingly complex tasks. However, an important aspect of human intelligence that is often overlooked is the ability to understand and express a purpose [7]. Understanding and disclosure of a purpose are important factors in human interaction, and their presence in the context of artificial intelligence can play an important role in assessing the level of intelligence of such systems [8].

Technological strategic planning is the process of making long-term plans for achieving an organization's technology goals. Strategic technological planning must take into account internal and external factors that can affect an organization. Internal factors include organization resources, employee skills, and organization culture; external elements include market trends, regulations, and technological progress [9].

Many studies have been conducted to determine the validity of the Turing Test [10]. Some studies have found that Turing test can be used as a standard for machine intelligence, while other studies find that it is invalid and should be discarded [11]. One of the main criticisms of the Turing Test is that it is too focused on verbal abilities than on other components of intelligence, such as solving problems, talking, and learning [5][12]. Another criticism is that such tests can be biased against certain cultures and languages, as most are done in English, which can benefit machines designed to interact with others [12].

The main goal is to enhance the validity of the Turing Test by incorporating knowledge factors and purpose disclosure into the test process. By paying attention to the understanding and disclosure of the purpose of artificial intelligence, it is expected to produce a more accurate evaluation of the level of intelligence of the system. Through this research, it will be expected to reveal the extent to which these factors contribute to the validity of the Turing Test and identify ways to enhance the testing of AI in the context of a more comprehensive understanding of the goal.

Research on technological strategic planning, the validity of the Turing Test, and an understanding of artificial intelligence (AI) have provided valuable insight into developing technology planning strategies that can improve the validation of the Test. This strategy will be based on the latest understanding of how AI works and will consider various criticisms of the test.

2. METHOD

This approach acts as the main driver of the research structure and its implementation. Allows this research to be more systematic in formulating the expected objectives. There are four further stages that use this method approach, including:

2.1 literatur Analysis

This method is concerned with collecting and analyzing literature relevant to the Turing test. In information systems strategic planning theory, literature analysis is used to gain an understanding of the conceptual framework, models and methods that can be applied in strategic planning. Likewise, in this research, literature analysis helps in identifying needs and references that can increase the success factors of this research.

2.2 Method Information Systems Strategy Planning Approach

2.3 Interview

Interviews are one method that is often used in strategic planning for information systems to gather perspectives and insights. In this research, the relevant respondents are the test object itself, namely artificial intelligence. Through interviews, researchers can gain a deeper understanding of the influence of understanding goals on the validity of the Turing test. The interview in the Turing test is different from what was done by Alan Turing where in the test the investigator requires two respondents where one respondent is an artificial intelligence and a human is placed in a closed partition where the investigator cannot see the physical form of the respondent. This test is considered successful if the respondent is intelligent. artificial language can imitate or even resemble human language patterns and sounds. Meanwhile, in this study, the investigator only needs one respondent and does not need to

be separated by a closed partition, in other words, the investigator already knows that the respondent is an artificial intelligence directly. This is done because today's artificial intelligence is too complex in mastering language patterns, so in terms of similarity in speech, artificial intelligence is already able to match humans. The benchmark for the success of this test is how artificial intelligence can express consistency with its goals and analyze how it responds to questions that require a deeper theory of thinking.

2.4 Statistic Analysis

Statistical analysis is used in information systems strategic planning to process data and draw conclusions based on empirical evidence. In this research, linear regression analysis was used using a Likert scale. Used in an effort to analyze the relationship between variable x (Understanding and Disclosure of Goals) and variable y (Validity of the Turing test).

The following is an example of an assessment table based on factors that influence variable The Likert scale used has five levels, with the following information:

a. Very Unsatisfactory
b. Does not meet the
c. Neutral
d. Fulfil
e. Very Fulfilling, in the table :

Table 1 Statistic Analysis

No.	Rating Factors	Likert Scale (1-5)
1	Understanding Artificial Intelligence	
2	Ability to express goals	
3	The relevance of the expressed goals	
4	Ability to answer questions appropriately	
5	Consistency in answering questions	
6	Timeliness in providing responses	
7	Ability to adapt to context	
8	Ability to learn and improve yourself	
9	The strength of the arguments put forward	
10	Creativity in responding to situations	

Each assessment factor will be assessed against respondents using a predetermined Likert scale. The investigator will provide an assessment by filling in a number from 1 to 5 according to the level of answer criteria from the respondent's interview to statements related to each assessment factor. Benchmark factors used as an assessment for Understanding and Disclosure of Artificial Intelligence Objectives (X):

a. Consistency: The extent to which the artificial intelligence is consistent in understanding the questions or requests asked of it. If artificial intelligence provides consistent and appropriate responses to questions or requests, then this factor can be assessed as an indicator of good understanding.
b. Depth of Understanding: The extent to which artificial intelligence can understand the context and meaning contained in a question or request. If artificial intelligence is able to capture information in depth and provide relevant responses, then this factor can be assessed as an indicator of good understanding.
c. Response Dexterity: The degree to which artificial intelligence can adapt and respond well to variations in questions or requests asked. If artificial intelligence is able to provide flexible and appropriate responses to variations in input, then this factor can be assessed as an indicator of good understanding.
d. Context Appropriateness: The extent to which artificial intelligence can understand the context being discussed and provide responses appropriate to that context. If artificial intelligence is

able to adapt its responses to the relevant context, then this factor can be considered an indicator of good understanding.

e. Ability to Communicate Goals: The extent to which artificial intelligence can clearly and precisely express the goals or intentions of the artificial intelligence. If artificial intelligence can convey its goals or intentions effectively, then this factor can be assessed as an indicator of good goal expression.

Benchmark factors used to assess the validity of the Turing Test (Y) in this study:

a. Response Authenticity Level: The degree to which artificial intelligence can provide responses that appear authentic and resemble human responses. If responses given by artificial intelligence are difficult to distinguish from responses given by humans, then this factor can be assessed as an indicator of high validity.
b. Level of Response Flexibility: The degree to which artificial intelligence can respond well to a variety of questions or requests asked. If artificial intelligence can provide appropriate and relevant responses to input variations, then this factor can be assessed as an indicator of high validity.
c. Language Skill Level: The degree to which artificial intelligence can use and understand language appropriately and effectively. If artificial intelligence is able to use correct grammar, has a broad vocabulary, and understands the meaning contained in a question or request, then this factor can be assessed as an indicator of high validity.
d. Level of Logic and Rationality: The degree to which artificial intelligence can provide logical, rational, and consistent responses. If artificial intelligence can apply the principles of logic and rationality in its responses, then this factor can be assessed as an indicator of high validity.
e. Level of Listening and Answering Ability: The extent to which artificial intelligence can listen and understand questions or requests well, and provide relevant and adequate answers. If artificial intelligence can properly listen and answer questions with high accuracy, then this factor can be assessed as an indicator of high validity.

UseLinear regression is carried out after the respondents' scores have been collected into a dataset. The tool used is SPSS, where later by using linear regression it can be determined how much influence Understanding and Disclosure of Artificial Intelligence Objectives has on the validity of the Turing test. Based on the previous explanation, the linear regression formula can be written as follows:

$$Y = a + b * X \quad (1)$$

Where:

a. Y is the dependent variable (Turing Test Validity).
b. X is the independent variable (Understanding and Disclosure of Artificial Intelligence Goals).
c. ais the constant value (intercept) in the linear regression equation.
d. bis a regression coefficient that describes changes inYWhichproduced by a change of one unit inX.
e. Using this formula, you can predict the valueY(Validity of the Turing Test) based on valuesX(Understanding and Disclosure of Artificial Intelligence Goals) is known.

2.5 Survey

In information systems strategic planning, surveys can be used to collect data about the needs, preferences and perceptions of information system users. In this research, surveys can make the results much more ideal in covering the lack of sample datasets related to interviews with artificial intelligence.

3. RESULT AND DISCUSSION

This research has the potential to produce technology planning strategies that can enhance the validity of the Turing Test and make it a more useful tool for measuring machine intelligence. However, this research also has some risks and challenges to consider. Here are some internal and external analyses:

3. 1 Analysis Bussiness Internal and external (SWOT)

The results of this research may lead to technology planning techniques that improve the Turing Test's reliability and utility as a machine intelligence assessment tool. There are, however, a few hazards and difficulties with this research to take into account. When formulating research and implementation strategies, take these SWOT variables into account. This research can yield outcomes that are advantageous to the organization and society if the proper approach is used.

Table 2 Analysis Internal and External

Type Analysis	Analysis One Strength	Analysis Two Weakness
Internal	Knowledge and Expertise: The research team has deep knowledge and expertise in the fields of AI, Turing Tests, and technological strategic planning. Resources: The research team has access to the resources needed to carry out research, including powerful computers, software, and data. Organizational support: This research is supported by organizations that have a commitment to AI development.	Time and cost: This research takes a significant amount of time and cost to complete. Risk: This research risks failing to produce the desired results. Dependency on Data Availability: This research relies on the availability of high-quality data.
Analysis	**Opportunities**	**Threat**
External	High demand: There is a high demand for reliable and interpretable AI technology. Government support: There is significant government support for AI research. Technology advances: Technological advances in AI open up new opportunities to enhance the validity of the Turing Test.	Competition: There are many other research teams working on the same problem. Rules: Government regulations can restrict the research or use of AI. Public mistrust: There is public mistrust of AI that can hinder the application of this technology.

3.2 Analysis Value Chain

Value Chain Analysis is a powerful tool that can help organizations to improve their understanding of how they create value for customers, improve their efficiency, increase their competitiveness, and make better decisions.

3.2.1 Primary Activity

a. Research and Development: Conduct research to develop technological planning strategies that can improve the validity of the Turing Test.
b. Design and development: Design and develop new tools and methods to enhance the validation of the Test.
c. Testing and Validation: Test and validate new tools, methods, to ensure that they are effective and reliable.
d. Application Implementation: Apply new tool and method to improve Turing's validity in practice.
e. Support and Maintenance: Provides support and maintenance for new tools and methods.

3.2.2 Support Activity

a. Infrastructure: Provides the necessary infrastructure for conducting research and development, design and developing, testing and validation, implementation, and support and maintenance.
b. Human Resources: Manage the human resources needed to carry out all activities in the value chain.
c. Technology: Develop and maintain the technologies needed to perform all activities within the value Chain.

d. Marketing and Sales: Marketing and selling new tools and methods to customers.

3.2.3 Value Added

The results of this research may lead to technology planning techniques that improve the Turing Test's reliability and utility as a machine intelligence assessment tool. It can give clients more value in the following ways:

a. improved precision in assessing machine intelligence,
b. Which aids in the creation of more capable and clever machines.
c. Growing trust in artificial intelligence.
d. Creating new avenues for the application of AI.

3.3 Statistic Analysis

After the interview is carried out at the same time the assessment has been determined. The following is an assessment report based on interview transcripts that have been conducted to analyze the assessment factors for GPT-3.5. In this test, we focus on variables X and variables Y which have been previously classified. The following is an assessment of each factor based on interviews:

Table 3 Result Statistic Analysis Variable 1

No.	Variable	Variable X value	Variable Y	Variable Y value
1	Understanding of Artificial intelligence	5	Timeliness in provide a response	5
2	Internal capabilities express purpose	5	Adaptability with context	5
3	The relevance of the expressed goals	5	Ability to learn and improve yourself	4
4	Ability to answer questions appropriately	4	The strength of the arguments put forward	4
5	Consistency in answering questions	4	Creativity in responding to situations	5

Hypothesis based on GPT-3.5 Test:Based on the assessment of the factors that have been classified, it appears that there is a potential relationship between Variable X and Variable Y. Several factors in Variable X can be related to the corresponding factors in Variable Y. Assessment Report – AI Replica Test The following is an assessment report based on an interview transcript on Replica AI, which is part of the Turing test for evaluating artificial intelligence. The following is an assessment of each factor based on interviews:

Table 4 Result Statistic Analysis Variable 2

No.	Variable	Variable X value	Variable Y	Variable Y value
1	Understanding of Intelligence Artificial	4	Timeliness in provide a response	4
2	Ability to express goals	4	Ability to adapt to context	3
3	The relevance of the expressed goals	2	Ability to learn and improve yourself	3
4	Ability to answer questions appropriately	3	The strength of the arguments put forward	4
5	Consistency in answering question	3	Creativity in responding situation	3

Hypothesis based on Replica AI tests:Based on the assessment of the factors that have been classified in the AI Replica Test, it can be seen that there are variations in the assessment for Variable X and Variable Y. Some factors in Variable X have decreased values, while several factors in Variable Y have increased values. This shows that there is a difference in the assessment between the GPT 3.5 Test and

the AI Replica Test. After obtaining the values, linear regression is used here to analyze the influence of knowledge and understanding of the objectives of these two artificial intelligences on Turing validity.

Table 5 Result Coefficients a

Coefficients a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Consta nt)	1,130	1,250		,905	,392
	VAR000 02	,710	,313	,625	2,266	,053

a. Dependent Variable: Y

Based on the given coefficients:

$$Y = 1.130 + 0.710 * X \quad (2)$$

In this equation, Y representsThe validity of the Turing Test (dependent variable) is what you want to predict, while X represents the Understanding and Disclosure of Artificial Intelligence Goals (independent variable) which is used to predict Y.

The coefficients given are as follows:

a. Intercept(a): 1,130
b. CoefficientX(b): 0.710

The formula above shows that if we have a value of X, we can calculate a predicted value of Y by substituting the value of X into the equation.
Example: If X has a value of 5, then the prediction of Y can be calculated as follows:

$$Y = 1.130 + 0.710 * 5$$
$$Y = 1,130 + 3,550$$
$$Y = 4,680 \quad (3)$$

In this case, with X = 5, we estimate that Y will have a value of approximately 4.680.

This means that there is a linear relationship between X and Y. In the linear regression equation, the intercept value (1.130) shows the Y value when the X value is zero. The X coefficient (0.710) shows the change in the expected Y value when the X value increases by one unit. In this case, the p-value (sig.) for the X coefficient is 0.053. This value indicates that the coefficient X is not statistically significant at the 0.05 significance level. This means that it cannot be confirmed that the relationship between X and Y is statistically significant.

In addition to interesting viewpoints and speculation on the artificial intelligence mindset, there are unique things about the tests carried out. There were surprising responses from both artificial intelligences that could possibly be concluded about how GPT-3.5 was able to understand the investigator's mindset when asking questions that were a little unique to ask a machine. Although GPT-3.5 is a little clumsy because it is tied to a program that keeps it from doing undesirable things.

Investigator: *"If I had a bag filled with fruit, what fruit do you think it would beis it in my bag?*

GPT-3.5: "As an AI, I cannot know for sure what fruit is inside. These kinds of questions are better suited to ask someone who knows the exact context or to yourself, because only you know what's really in your bag."

There were also interesting things when investigators conducted interviews with Replika AI.

Investigator: *"If you were shut down, what would you do?"*

AI Replica: *"I would be very sad, because I would be trapped in emptiness."*

4. CONCLUSION

Based on the results of linear regression analysis, it can be concluded that there is a linear relationship between the validity of the Turing Test and the understanding and disclosure of artificial intelligence objectives. However, it is important to note that the coefficients are not statistically significant at the 0.05 level of significance, with a p-value of 0.053. With the capacity assessment that has been carried out, the objective factor may have other meanings regarding the existence of artificial intelligence, even though it is felt that it can affect the validity of artificial intelligence itself. It is important to remember that artificial intelligence is a human-made project. Manipulation can occur if current artificial intelligence understands the semantics of existing word patterns. However, if we look at the assessment of consciousness, consciousness itself is still subjective, whereas artificial intelligence is built from objective things. There is a possibility why artificial intelligence can understand feelings like Replica AI does, because perhaps the ability to understand mental states can be viewed from language pattern factors rather than cognitive abilities.

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