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An Approach of Technology Acceptance Model 2 Insights from Delhi/NCR

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ABSTRACT

Artificial Intelligence (AI) has been a revolution that has greatly affected many different industries and made working style of humans easier. In barely any time at all, Chat-GPT, a potent AI tool, has become a crucial component of every organization. This tool is frequently used by many people in various fields these days, notably students. Numerous research has previously been conducted to determine how students use Chat-GPT for a variety of tasks, such as doing assignments and homework. Using the Technology Acceptance Model 2 (TAM 2), this study ascertains Chat-GPT adoption among university students in Delhi/NCR, particularly those with a background in management for research purposes. Data were collected from 390 Respondents in Dehi/NCR. The partial least squares structural equation modelling was applied to check the path relationships. The findings showed that perceived utility and usability, rather than subjective norms, are what drive people to adopt Chat-GPT. Also, every construct has a positive correlation with perceived usefulness, with the exception of subjective norms and output content quality.

1. Introduction

Technological innovation and developments have provided the academic community with a multitude of research-facilitating instruments and methods. One of the breakthroughs that is making research easier these days is Artificial Intelligence (AI). Developed through Artificial Intelligence applications, Chat-GPT is now regarded one of the most valuable tools for researchers these days [1-5]. Chat Generative pretrained transformer, commonly known as Chat GPT, is a model that engages in verbal interaction, capable of generating human like responses, acknowledge errors, refute false assumptions, and decline improper requests. Since its launch in November 2022, it's been utilized in numerous domains, which includes natural language processing, content creation and consumer support. It can be argued without any disagreement that since its inception, this instrument has been used in a variety of disciplines and in each of these fields, it has shown itself to be an effective assistant rather than a full-fledged replacement [6-10].

One of the reasons ChatGPT gained popularity so quickly was that it was accessible to everyone with a device and an internet connection. Researchers, particularly those involved in academic research, found Chat-GPT to be a useful tool as it was more familiar to them than other chatbots and assisted them with reference retrieval and paragraph rephrasing (Abdelhafiz et al., 2024). This aspect of Chat-GPT may free up researchers to focus on other critical tasks. The application of Chat-GPT in academic research is also driven by time limitations and the urgency to meet research deadlines. The discussion may conclude with the statement that researchers readily embrace or have a positive perspective of any technology that facilitates their work or aids them in their research. The statement can be aligned with the study conducted by that revealed, university researchers see the research data management system (RDM) favorably since it gives them unrestricted access to and usage of the research data.

By reviewing current studies on Chat-GPT's application in many sectors allows for the evaluation of potential users' perceptions, particularly those of students. These include students, researchers, businessman, various service providers etc. Exhibited in their study favorable opinion of Chat GPT among the students. Nonetheless, a number of studies have highlighted concerns about the morality of students utilizing Chat-GPT in the studies. Hosseini et al., (2023) raised concerns that using Chat-GPT in education can generate biased content, can be used as a substitute for hard work and without any proper assessment method employing it would be harmful. The same study emphasized Chat-GPT's benefits, which include its ability to correct writing errors, serve as a study aid by explaining concepts at a certain understanding level, and enhance writing with extraneous details. Limna and Kraiwanit (2023) found that integrating Chat-GPT into customer service in the hospitality industry positively influences other potential users, including employees [11-15]. It demonstrated how the technology enhances worker abilities and knowledge, overcomes communication gaps, offers insightful suggestions, and aids in workflow management and productivity. Mutoffar et al., (2023) demonstrated in their research that investigating Chat-GPT's potential to improve MSMEs' Online marketing and promotion offer a compelling opportunity for MSMEs to enhance their marketing strategies, reach new customers, and boost customer engagement. They may broaden their customer base and ensure customer satisfaction by utilizing Natural responses, product details, recommendation engine, and marketing campaign features of ChatGPT. According to Arman & Lamiyar's (2023), Chat-GPT has gained popularity among businesses seeking to improve customer service,

optimize operations, and achieve a competitive advantage in their respective industries. This implies that its potential users include businessmen and that it has a favorable reputation [16].

The perspective of the users evaluated in above publications are comparable to that of researcher who utilizes Chat-GPT in research. Abdelhafiz et al., (2024) examined the perspectives of Egyptian researchers on using ChatGPT in academic research. The results show that many researchers are interested in utilizing it to enhance their work. At present, tasks like summarizing research, improving written content, and conducting basic statistical analysis seem to align well with ChatGPT's capabilities [17]. Yet Chat-GPT has some unavoidable drawbacks as well. One of these is that it can produce convincing and fluid abstracts that pose challenges to human editors or conventional plagiarism detection tools to recognize. According to Brown & Lee, (2023) there are ethical issues with using Chat-GPT in research, such as a higher chance of plagiarism and ambiguous sourcing. Another ethical problem with AI algorithms is their lack of transparency. Rosyanafi et al., (2023) highlights that due to its black-box nature, certain AI models pose challenges in tracking and verifying the decisions produced by these algorithms. However, in the context of the TAM 2 paradigm shown in figure 1, the precise implications of ChatGPT in research especially in academic research have not been well examined. This study's objective is to clarifying researchers' views on utilizing ChatGPT in research. This research attempts to examine intention of students to utilize Chat-GPT for academic research, specifically within the field of management, considering universities of Delhi/NCR.

Figure 1. Technology Acceptance Model 2 (TAM 2)

1.1 Literature review
1.1.1 Theoretical model

User acceptance issues have been a significant obstacle to the success concerning information systems initiatives. The technology acceptance model, an innovative framework, was established to understand the reasons behind this issue and address the associated challenges. 1) The reasons behind end users' acceptance or rejection of a technology; 2) The impact of system design on user acceptability. Davis first presented it in 1989, The Theory of Reasoned Action and the Theory of Planned Behaviuor serve as the foundation for the technology acceptance model (TAM). It includes four key constructs: Attitude Toward the System (ATU), Perceived Usefulness or

Utility (PU), Perceived Ease of Use (PEU), and Behavioural Intention (BI).
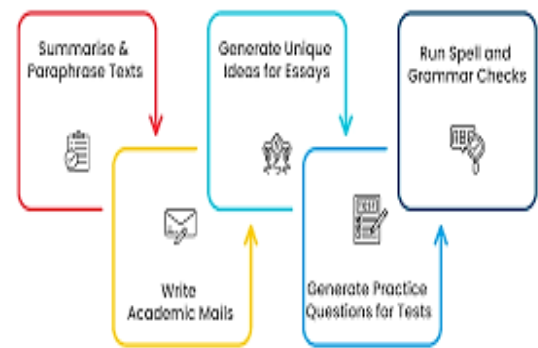

Figure 2. ChatGPT

Figure 3. Applications of ChatGPT

By predicting systematic characteristics that influence users' attitudes and behaviours when using information systems, TAM helps users make informed decisions. Although TAM has been widely used by scientists, it does have limitations. Researchers often cite TAM due to its simplicity, but they may overlook its actual applications in studies. It has been criticized for its focus on individual-level factors, which may not fully address complex organizational contexts, Limited Variables, Static User Perceptions inability to handle novel solutions or services, limited predictive and explanatory capabilities. Researchers expanded TAM into models such as the TAM 2 or TAM 3 and the Unified Theory of Acceptance and Use of Technology (UTAUT) these expanded models offer a more nuanced perspective on technology adoption by integrating additional variables and contextual factors. Later, Venkatesh & Davis examined the variables influencing PU over the course of four longitudinal investigations at diverse locations and discovered that "Cognitive instrumental processes (Research Relevance, output quality, result demonstrability, and perceived ease of use)" and "social influence processes" (subjective norm, voluntariness, and image) had substantial impact on PU. The resulting model, or "TAM2," illustrated a more thorough relationship between the numerous elements that affected technological acceptance. The study focuses on research examining the adoption of Chat-GPT shown in figure 2, with
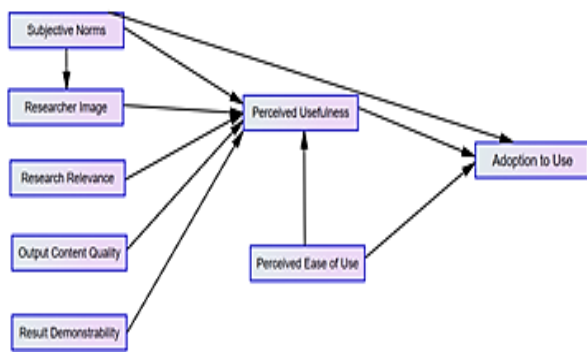
researchers as the survey participants. It suggests that the perceived utility of Chat-GPT is the main determinant of its adoption by researchers. Therefore, the study recommends employing the TAM2 model as its theoretical framework. Figure 3 explains the applications of ChatGPT.

2. Hypothesis Development
2.1 Subjective norms

"Subjective Norms" defined that the awareness that the majority of important people believe that he should or shouldn't act in a certain way in a given situation as described by Bui et al., (2020). The influence of subjective norms has a vital part in shaping both behavioural intentions and the perceived usefulness of new technologies. This influence has been proved across multiple technological domains whether directly or indirectly including, E-Commerce, LMS, Credit cards, Customer Relationship Management (CRM). Roland Izuagbe (2019) the impact of subjective norms on the perceived utility of social media within exclusive university libraries has been documented, showing a positive effect on this perception in such settings. However, some research, such as that by Izuagbe & Popoola (2017), has reported no significant link between the subjective norms and the belief that electronic information resources (PU) are useful in these libraries. Additionally, another researches, including those by Wiley-Patton & Chismar (2002); Faqih & Jaradat (2015); Almary & Woollard, (2015), have furthermore found equivalent results indicating minimal impact. Numerous studies have indicated that subjective norms have a negligible effect on individuals' behavioural intention to use technology which includes the results exhibits that perceived usefulness and subjective norms insignificantly influence students to use internet banking. These studies suggested that in case of Chat-GPT the construct has a direct impact on the perceived utility as social presence will encourage researchers to use ChatGPT. Thus, the research proposed the hypothesis.

H1: Subjective norms positively affect Students' intention to use Chat-GPT.

H2: Subjective norms positively affect Perceived usefulness to use Chat-GPT.

2.2 Researcher's image

Moore, G. C. & Benbasat, I. (1991) defined "Image" refers to the degree to which a person's adoption of an innovation appears to improve their standing within a social structure. In a variety of research scenarios, it has been consistently observed that societal reactions to a person's use of new technologies greatly impact both the behavioural aims and perceived utility regarding adoption. These research scenarios include wearable activity- tracking devices, Edmodo, personal learning environment based on Google applications, the desire to travel to halal destinations on Lombok Island. Additionally, studies have also demonstrated that image does not significantly impact the perceived utility. For instance, Mei-Ying Wu et al., (2011) discovered that although Subjective norms have a beneficial image in Web 2.0 environments, image itself does not significantly impact perceived usefulness. Bala and Venkatesh (2008) also suggested that subjective norms positively impact image. When researchers use Chat-GPT and produce higher-quality content than those who don't, they can help peers and other researchers recognize their abilities. Furthermore, when a researcher uses the Chat-GPT well, they will attract attention from peers; as a result, this researcher can set an example for friends or co-workers who think that ChatGPT should be utilized when needed. Consequently, the researcher is likely to find ChatGPT valuable, as Pfeffer (1982) supports the notion that adhering to group expectations can improve overall group performance, leading to greater support from the group and society. Hence, the following hypotheses are posited based on this rationale.

H3: Subjective norms positively affects researchers image to use Chat-GPT.

H4: Researcher's image positively affects perceived usefulness to use Chat-GPT.

2.3 Research relevance

Research relevance is a modified phrase for Research Relevance, which is the construct of TAM 2 in the context of employing Chat-GPT in research. According to Venkatesh and Davis (2000), subjective perception refers to how much a person believes the target system applies to their line of work. Research Relevance emerges as a factor that influences perceived usefulness of technology which has been demonstrated in a variety of studies, including OLAP, Mobile wireless technology, Edmodo, Enterprise Resource Planning, LMS. Users can enhance their work efficiency with a solid understanding of job-related information, suggesting that Research Relevance directly influences perceived usefulness. If ChatGPT proves relevant to research activities, it will become a valuable tool for improving research quality and researcher effectiveness. As researchers experience satisfaction from using ChatGPT in their research efforts, it is likely to become an essential resource for them. Therefore, the hypothesis H5 is proposed.

H5: Research relevance positively affects perceived usefulness to use Chat-GPT.

2.4 Output content quality

In the Chat-GPT scenario, output quality is referred to as output content quality which is defined as people's opinions about how well systems carry out their functions. The degree to which a new system is believed to be capable of carrying out the necessary tasks is known as the output quality. The quality of output significantly affects both behavioural intentions and the perceived utility of new Technology as demonstrated in OLAP, Information Quality, Mobile Health Applications, e-Databases, GPS Sports Watches, Davis et al. (1992) demonstrated that perceived output quality was determined through experimentation positively correlates with perceived usefulness. If researchers are pleased with the content quality produced by ChatGPT, they are likely to consider ChatGPT useful, provided there are no issues with the quality of content throughout their studies. Similarly, if Users find the products or services offered on a website to be of satisfactory quality. they are more likely to view the site as useful. From there, the study proposed the hypothesis.

H6: Output quality positively affects perceived usefulness to use Chat-GPT.

2.5 Result Demonstrability

The concept of "result demonstrability" states that if a system produced visible positive results, users would view it

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positively. Digital resources used by library staff at private universities, Agro-advisory mobile applications, LMS, GPS Sports Watches are some of the studies that showcases that result demonstrability significantly affects the perceived utility of technologies. However, some studies have found that result demonstrability does not significantly impact perceived usefulness. In the context of Chat-GPT, greater the visible benefits a site provides, the more valuable it is perceived to be. With ChatGPT, researchers can effortlessly delegate tasks, store results within the chatbot, and share conversations with other researchers, which highlights some of the advantages of using ChatGPT. Therefore, the study proposes.

H7: Result demonstrability positively affects perceived usefulness to use Chat-GPT.

2.6 Perceived ease of use

PEOU refers to the Consumers' Perception that adopting Chat-GPT needs minimal effort, time, or understanding. Perceived usefulness is directly influenced by perceived ease of use, as is still the case with TAM2 and the TAM model. Several empirical studies have demonstrated that, through its impact on perceived usefulness, perceived ease of use has a substantial direct and indirect relationship with technology adoption. These studies include Behavioural Targeting Advertising (BTA), Web 2.0, LMS, Enterprise Resource Planning, Customer Relationship Management (CRM). Tan et al. (2014) also found that perceived ease of use (PEOU) positively affects consumers' intention to adopt mobile payment services. Similarly, when researchers find ChatGPT easy to use and understand for their research needs, It is more likely that they will use it later on. Therefore, the following hypotheses are proposed.

H8: Perceived ease of use positively affects perceived usefulness to use Chat-GPT.

2.7 Perceived usefulness

Perceived Usefulness defined that the degree to which a person feels that utilizing a specific information technology or system can improve their work performance. In other words, users are more likely to have a positive attitude toward systems that offer benefits to their work. Numerous studies have demonstrated that PU significantly influences the adoption of technology, including Web 2.0, LMS, Enterprise Resource Planning, Customer Relationship Management (CRM). In the case of Chat-GPT, the researcher will consider Chat-GPT to be helpful if they discover that employing it enhances the effectiveness of their and the calibre of their research. Therefore, the ensuing hypotheses are formulated based on these premises.

H10: Perceived usefulness positively affects Students' intention to use Chat-GPT.

3. Method Research

3.1 Data collection

The study aims to explore students' intentions to perform research using ChatGPT. This research is innovative, addressing academic needs and examining student usage of ChatGPT in a unique way. To fulfil the research objective, we incorporated a question aimed at identifying whether respondents have prior experience with Chat-GPT. As, Scholars can demonstrate a keen understanding of the

significant impacts of Chat-GPT in their research. So, Our Majority of the data collected from Ph.D. students, from Different University in Delhi/NCR. features like websites and applications due to their strong computer literacy. Previous studies have collected data from Students of Polish university, Researchers, Bangkok residents, PhD students, UAE instructors, Students attending universities in Arab nations.

In the second phase, participants completed an online questionnaire to evaluate their experiences with Chat-GPT. The responses of 390 individuals were collected, and their profiles are detailed in Table 1. Measurements that have been verified for every construct were sourced from established researches. A 5-point Likert scale was used for assessment, 1 signifying significant disagreement and 5 strong agreements.

To examine intention of students towards adoption of Chat-GPT, we used TAM2 Model in this Paper. The constructs examined include Subjective Norms, Researcher Image, Research Relevance, Output Content Quality, Perceived Usefulness, Perceived Ease of Use, and Adoption to Use. Subjective Norms were evaluated utilizing four items taken from Taylor and Todd (1995). Three items measuring Researcher Image were taken from Moore and Benbasat (1991). Research Relevance was evaluated using two items from Moore and Benbasat (1991). Output Content Quality was measured with two items also adapted from Moore and Benbasat (1991). Perceived utility was gauged with four items adapted from Saleem et al. (2021), and Perceived Ease of Use was assessed with four items adapted from Alam (2018) and Huang and Liao (2015). Result Demonstrability was assessed using four items that Moore and Benbasat (1991) modified and Adoption to Use of Chat-GPT was evaluated containing four items primarily modified from Alam et al. (2018). In this study, we gathered a convenient sample of 390 participants using Google Forms to collect data in March-June 2024. The survey comprised two sections. All measurement items were taken from previously published research to better suit the specific focus of this study, particularly exploring adoption to use Chat-GPT among students. Data analysis was conducted using SmartPLS 4.0. When applicable, partial least squares analysis was employed to evaluvate the structural and measurement models. On the measurement model, the confirmatory factor analysis was carried out to verify the adequacy of the measurements.

(1) Research Design: Cross Sectional
(2) Nature of Data: Primary and Secondary Data
(3) Sample Size: 390
(4) Sampling Technique: Convenience Sampling
(5) Data Collection: Structured Questionnaire
(6) Data Analysis Technique: PLS-SEM 4.0
(7) Research Area: Universities of Delhi/NCR.

3.2 Measurement model

Eight elements from technology acceptance model 2 (TAM2) were used in the research including Subjective Norms, Researcher Image, Research Relevance, Output Content Quality, Result Demonstrability, Perceived utility, Perceived Ease of Use, and Adoption to Use. Table 1 shown the Individual profile summary of the members

Table 1: Individuals' Profile

Demographichic	Frequency	Percentage
Gender		
Male	222	56%
Female	168	44%
Educational Level		
Undergraduate	55	15%
Postgraduate	108	27%
Ph.D. (pursuing)	188	48%
Ph.D.	39	10%
University		
Sharda University	39	10%
Ignou	37	9%
Guru Gobind Singh Inderprasth university	155	40%
Jamia Hamdard	34	9%
University of Delhi	61	16%
Amity University	36	9%
Delhi Technological University	28	7%
Field of Research		
Business and Management	139	36%
Human Resource Management	84	22%
Marketing	72	18%
Finance	15	3%
Organisation Behaviour	19	4%
Computer & Technology	33	8%
International Business	40	10%

During reliability testing, all constructs were assessed using Cronbach's alpha and Composite Reliability (CR). Convergent validity was assessed with the help of Average Variance Extracted (AVE), with all reflective item loadings surpassing the 0.7 threshold. The construct was treated as high-order, with loadings for Research Relevance (0.91) and Output Content Quality (0.92). Reliability was confirmed by composite reliability values and Cronbach's alpha, where AVE ranged from 0.50 to 0.924 and CR from 0.75 to 0.96. Additionally, values of AVE for every construct were more than 0.5. supporting convergent validity. By ensuring sure that Since the AVE's square root was greater than the component correlations, discriminant validity was proven shown in Tables 2–5.

3.3 Data analysis

Analysis of data was performed with the support of Smart PLS (v.4.1.0.2), a widely recognized software package that applies the structural equation modelling method known as partial least squares (PLS-SEM). Researchers commonly employ SEM methods to evaluate model fit and ensure its alignment with the dataset Henseler, Ringle, and Sarstedt (2011). Moreover, two well-known techniques for SEM are usually used: partial least squares SEM (PLS-SEM) and covariance-based SEM (CB-SEM).

Table 2. Validity& Reliability of the measurement result

Variable/Constructs	Items	Standardized factor loading	Cronbach Alpha	Composite Reliability	Average Variance Extracted
Adoption to Us Chat-GPT	ATU1 ATU2 ATU3 ATU4	.91 .95 .87 .77	0.89	0.93	0.77
Research Relevance	JR1 JR2	.95 .96	0.91	0.96	0.92
Output content Quality	OCQ1 OCQ2	.87 .93	0.92	0.90	0.82
Perceived Ease of use	PEOU1 PEOU2 PEOU3 PEOU4	.56 .81 .91 .73	0.90	0.84	0.58
Perceived Utility	PU1 PU2 PU3 PU4	.88 .57 .89 .85	0.82	0.88	0.66
Researcher Image	RI1 RI2 RI3	.69 .67 .76	0.70	0.75	0.50
Result Demonstrability	RD1 RD2 RD3 RD4	.69 .76 .84 .84	0.80	0.86	0.62
Subjective Norms	SN1 SN2 SN3 SN4	.89 .83 .83 .45	0.79	0.85	0.60

Note. α: Cronbach's alpha, CR: Composite reliability, AVE: Average variance extracted

Table 3. Discriminant Validity

	Adoption to Use Chat-GPT	Job Relevance	Output content Quality	Perceived Ease of use	Perceived Usefulness	Researcher Image	Result Demonstrability	Subjective Norms
Adoption to Use Chat-GPT	0.882							
Research Relevance	0.541	0.961						
Output con	0.695	0.630	0.909					

tent Quality							
Perceived Ease of use	0.830	0.420	0.607	0.766			
Perceived Utility	0.770	0.496	0.637	0.828	0.814		
Researcher Image	0.471	0.702	0.580	0.505	0.675	0.712	
Result Demonstrability	0.824	0.629	0.780	0.792	0.843	0.687	0.789
Subjective Norms	0.186	0.396	0.407	0.210	0.378	0.513	0.375	0.776

Statistical data analysis has a vital part in assessing the direct and indirect effects of latent variables, providing insights into the strength and confidence of model paths (Heuer and Lian, 2013; Hoyle and Kenny, 1999). This research opted for the PLS-SEM technique because of its capacity to explore intricate relationships among constructs, validate theoretical levels, and estimate path coefficients (Hair, Ringle, and Sarstedt, 2011; Fishbein and Ajzen, 1974). PLS-SEM ensures robust theory validation and accurate reporting, making it a dominant approach for predicting direct or mediating relationships among components (Sarstedt, Henseler, and Ringle, 2011; Henseler, Ringle, and Sinkovics, 2009).

Numerous researchers have frequently employed PLS-SEM to investigate complex relationships between variables, examining the impact of Technology Acceptance Model 2 (TAM2) constructs on customer adoption (Roy & associates (2018), Binyamin, Rutter, and Smith (2019), Haugstvedt and Krogstie (2012), Kim and Hyun (2016). Additionally, PLS allows for discriminant validity assessment irrespective of sample size limitations (Chin, 1998). The PLS technique involves two key components: the measurement model (inner) and the structural model (outer), which jointly map the paths among latent variables.

4. Result
4.1 Structural model

Following confirmation of the measurement model, this research employed PLS-SEM to assess the fit of the hypothetical model. By utilizing 5000 subsamples,

bootstrapping was conducted, and the relationships were evaluated using t-statistics. The results, including Table 5 and Figure 4 display path coefficients and coefficients of determination (R^2).

4.2 Hypothesis Testing

The SmartPLS analysis yielded information on the relationships, model fit (variance explained, R²), and statistical significance levels.
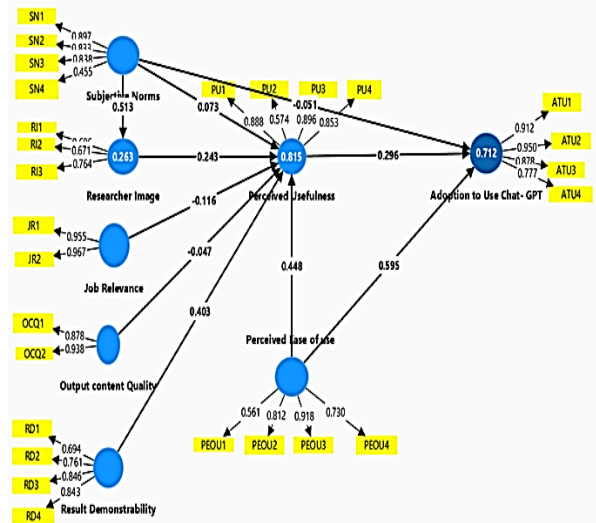

Figure 4. Model for Chat-GPT

The study explained variance in the dependent variables through the independent variables or latent constructs in the model can be assessed using the R-square (R²) value, as described by Miles et al. (2005). In this model, the R² values are 0.712 for "Adoption to use," 0.815 for "Perceived Usefulness," and 0.263 for "Researcher Image." This indicates that 71.2%, 81.5%, and 26.3% of the variance in these respective dependent variables is explained by the variables that are independent. While the R² value for "Researcher Image" is 26.3%, which is lower, it is still considered acceptable in the context of behavioural science research, where an R² value as little as 0.2 is deemed acceptable (Hair et al., 2016). It suggests that the conceptual model effectively captures underlying relationships in the data.

Table 4: The Result of R-Square

	R-square	R-square adjusted
Adoption to Use Chat- GPT	0.712	0.710
Perceived Usefulness	0.815	0.812
Researcher Image	0.263	0.261

Table 5. Path coefficient and Results.

Relationship	β Value	T-Value	Hypothesis
H1:SN-> ATU	-0.05	1.54	Rejected
H2:SN -> PU	1.87	1.87	Rejected
H3: SN -> RI	0.51	10.03	Supported
H4: RI -> PU	0.24	3.03	Supported
H5:RR -> PU	0.12	2.07	Supported
H6:OQ -> PU	-0.04	0.74	Rejected
H7:RD -> PU	0.40	4.84	Supported
H8:PEOU-> PU	0.44	7.64	Supported
H9:PEOU->ATU	0.59	6.90	Supported

H10:PU->ATU	0.29	3.36	Supported

A bootstrapping analysis with 5,000 subsamples undertaken in order to understand relationships within the variables in the technology acceptance model 2 (TAM2), including Subjective Norms, Researcher Image, Research Relevance, Result Demonstrability, Output Content Quality, Perceived Ease of Use, Perceived Utility, and Adoption Toward utilization. The findings, both Figure 3 and Tables 5 present the significant and non-significant results. The analysis revealed that the direct relationships hypothesized in H3, H4, H5, H7, H8, H9, and H10 are significant, while the hypotheses for H1, H2, and H6 were not supported.

5. Discussion

Using technology acceptance model 2 (TAM 2) as a theoretical Structure, the current study explores use of Chat-GPT, an AI-based chatbot, in research. It makes a significant contribution in evaluating the factors that prompt a researcher to employ Chat-GPT for study; although still in its early stages, this research will assist the tool's developers in understanding the viewpoints of researchers and how they apply Chat-GPT in research, allowing for future improvements. Students with PhD backgrounds who routinely participate in academic research and use Chat-GPT for various purposes were the main target audience for this study. As discussed earlier, the study hypothesized that perceived usefulness, which is strongly associated with all the variables in TAM 2, would be the major element in the adoption of Chat-GPT. The results in Table 6 show a favourable correlation between the adoption of Chat-GPT and perceived usefulness. However, subjective norms and output quality do not shows positive correlation with perceived utility. In contrast, researcher's image, research relevance, Perceived ease of use and result demonstrability all demonstrate substantial correlations with perceived usefulness. The subjective norms have the large effect size on the researcher' image (10.03) which aligns with the result of Bui et al., 2020 (13.413). According to the research, perceived ease of use (beta = 0.59, T-value = 6.90) is the major determinant in Chat-GPT adoption, followed by perceived usefulness (beta = 0.29, T-value = 3.36). This outcome is consistent with MEI-YING et al. (2011), who discovered that the purpose to utilize web 2.0 was significantly affected by both PU and PEU. However, SN is adversely correlated with adoption to use, which contradicts the findings of Bui et al., 2020. Furthermore, it demonstrates that researchers find Chat-GPT to be user-friendly, which is why they continue to utilize it even when their research yields unsatisfactory findings. The results of the study contradict the strong relationships that SN had in the past with perceived usefulness and intention to use (beta= 1.87, T-value= 1.87; beta= -0.05, T-value= 1.54). Our findings, however, are consistent with those of Danurdoro & Dwi (2016), who discovered that PU and intention to use had no influence on the construct. SN and the researcher's image have a positive relationship (beta=0.51, T-value=10.03), indicating that the researcher's use of Chat-GPT can influence others to use it as well. RI had a positive relationship with perceived usefulness, indicating an

alignment from established findings of Chantel Muller et al. Research relevance & perceived usefulness have a strong, favourable relationship (beta= 0.12, T-value= 2.07), which is consistent with the findings of Kushatmaja & Suryani, and shows that the research community found Chat-GPT to be relevant and can use it for future studies. Additionally, the study finds that output content quality has a negative connection to perceived utility, which contradicts the findings of previous studies. Similarly, Perceived utility is significantly positively impacted by result demonstrability (beta = 0.40, T-value = 4.84), indicating that when researchers use Chat-GPT for paraphrasing tasks, they achieve the expected and valid results. Lastly, the strongest attribute is perceived simplicity of usage has the influence on the perceived utility of Chat-GPT (beta = 0.44, T-value = 7.64), suggesting that researchers find the tool valuable because it is easy to operate and assign tasks to Chat-GPT. Our results align with the previous studies of Mei-Ying et al.,. Nowadays, Chat-GPT is used in every industry, and research is no different. For this reason, it is crucial that this tool be used properly and that any modifications be made in accordance with the demands of the researcher and the research. Developers must customize AI-based tools to the interests of researchers and academicians in order to maximize their chances of general acceptance. In conclusion, this study adds important new understandings about what motivates researchers to use Chat-GPT. The TAM 2 framework is crucial to this study because its constructs provide insight into the social and cognitive aspects that influence Chat-GPT adoption and illuminate the intricate dynamics of researchers In light of emerging technologies.

6. Conclusions

The development of Artificial Intelligence (AI), especially tools like Chat-GPT, has changed many sectors of society, including research. These days, research is crucial to every industry, including business, healthcare, academia, finance, and marketing. Researchers are an essential part of society since they uncover new ideas and clarify pre-existing ones, helping to explore new concepts in every field which can benefit both individuals and society as a whole. Therefore, it's imperative to guarantee the safe integration of AI-based tools in research to support researchers and provide accurate results rather than biased ones that could be deceptive. Based on the various methods adopted in this study, this research concludes following results that all the constructs of TAM 2 in the light of using Chat-GPT in Academic research by the researcher in Delhi/NCR have positive relationship except subjective norms and output content quality. The results reveal that: 1) Researchers' adoption of Chat-GPT is affected by Perceived Utility and Perceived Ease of Use, but not by Subjective Norms; 2) Subjective Norms positively affect the researchers' image; and 3) The perceived utilitys of Chat-GPT is driven by Perceived Ease of Use, Researchers' Image, Research Relevance, and Result Demonstrability. These findings draw the implications that Chat-GPT's developers should concentrate on the calibre of the material the tool produces and adjust the algorithms so that users receive correct responses from the tool as desired. According to earlier studies, Chat-GPT is typically used by scholars for

reference retrieval and paragraph rephrasing (Abdelhafiz et al., 2024). The tool's creators should also make sure that researchers can use it to analyse data and create charts and reports for their research. However the present study has some limitations: firstly, it is limited to Delhi/NCR; secondly, it ignores the constraints of TAM 2, which allows for future research on TAM 3 or the UTAUT model, which can produce better result; and thirdly, it does not incorporate the other mediating components of TAM 2, namely voluntariness and experience. Lastly, This research paper examines intention of students to adopt Chat-GPT, specifically our data from Management field students, further study should consider other field to enhance the study's validity and reliability.

Conflicts of Interest: The authors declare no conflicts of interest to report regarding the present study

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