Research on the Acceptance Behavior of Accounting Professionals towards Large Language Models and Generative Artificial Intelligence: An Analysis Based on ChatGPT

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INTRODUCTION

This study examines professionals' acceptance behavior towards LLMs and generative AI. The UTAUT framework and SEM were used. The findings suggest that acceptance behavior is primarily influenced by perceived risk, personal innovation, community influence, and technological advancements. Notably, the moderating factor does not significantly impact usage intention.
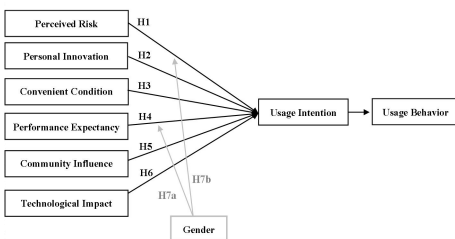
HYPOTHESES

Six hypotheses were proposed, and an initial technology acceptance model was developed based on the UTAUT framework.

• H1: Perceived risk has a negative effect on accountants' intention to use ChatGPT.

• H2: Personal innovation has a positive effect on accountants' intention to use ChatGPT.

• H3: Convenient condition has a positive effect on accountants' intention to use ChatGPT.

• H4: Performance expectancy has a positive effect on accountants' intention to use ChatGPT.

• H5: Community influence has a positive effect on accountants' intention to use ChatGPT.

• H6: Technological impact has a positive effect on accountants' intention to use ChatGPT.

• H7a: Gender has an impact on perceived risk.

• H7b: Gender has an impact on performance expectancy.

RESEARCH DESIGN

Grounded in an extended UTAUT framework, these six factors are influencing factors. Usage intention and usage behavior are dependent variables. Gender in the UTAUT model is retained as a moderating variable.
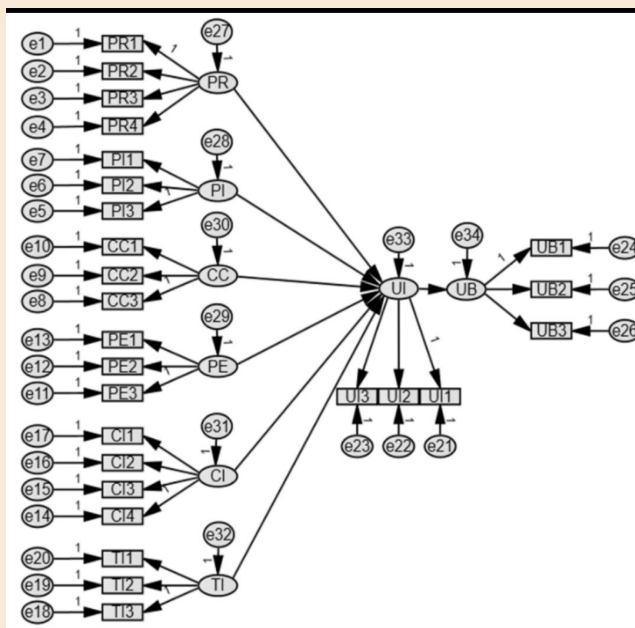

CONCLUSION

The study reveals that accountants exhibit an overall acceptable willingness to utilize ChatGPT. Perceived risk exerts a substantial negative influence, whereas personal innovation, community influence, and technological factors exert significant positive effects. Further investigation indicates that gender does not impact the willingness to use.

RESULTS

Cronbach's alpha coefficient	Standardized Cronbach's alpha coefficient	item count	sample size
0.923	0.923	26	451

• The results of the reliability test showed that the questionnaire has good reliability.

• The validity test shows that KMO's value is 0.909 and the P-value is 0.000*, leading to the rejection of the null hypothesis and affirming the validity of factor analysis.

KMO test and Bartlett's test		
KMO value		0.909
Bartlett's test of sphericity	approximate chi-square (math.)	5765.737
	df	325
	P	0.000*

• Based on structural equation modeling, the data model presented is illustrated.

• In this picture, e1 to e32 represent the error variables. PR1-PR3 and PI1-PI3 represent the observed variables of Perceived Risk and Personal Innovation. Likewise, CC1-CC3 and PE1-3 denote the observed variables of Convenient Condition and Performance Expectancy. CI1-CI4 and TI1 to TI3 are the observed variables of Community Influence and Technological Impact. Similarly, the observed variables for Usage Intention and Usage Behavior (UB) are represented by UI1-UI3 and UB1-UB3.

• The evaluation indicators for model fit are shown on the right side. The model demonstrates a good fit to the data, deeming it acceptable.

norm	χ^2	df	P	χ^2/df	GFI	RMSEA	RMR	CFI	NFI	NNFI
norm	-	-	<0.05	<3	>0.9	<0.10	<0.05	>0.9	>0.9	>0.9
actual value	363.095	277	0.000***	1.311	0.938	0.026	0.241	0.985	0.938	0.982

Path	B	Beta	S.E.	Z	P	Hypotheses	Results
PR →UI	-0.216	-0.214	0.063	-3.408	0.001***	H1	Established
PI →UI	0.153	0.166	0.060	2.556	0.011**	H2	Established
CC →UI	0.097	0.096	0.063	1.555	0.120	H3	Not Established
PE →UI	0.088	0.091	0.058	1.519	0.129	H4	Not Established
CI →UI	0.172	0.187	0.061	2.841	0.004***	H5	Established
TI →UI	0.131	0.139	0.058	2.262	0.024**	H6	Established

• The findings from the Model Path Test were that perceived risk (PR) exerts a significantly negative influence on willingness to use. Community influence (CI), personal innovation (PI), and technical impact (TI) have a significant positive effect. Convenience condition (CC) and performance expectancy (PE) are not significant.