How Relationships among Antecedents and Purchase Intention of Wearable Technology Are Changed in Five Samples

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Keywords: Wearable technology, purchase, abandon, consumer characteristics

Wearable technology refers to electronic devices that can be directly worn on the body (Perry, Malinin, Sanders, Li, & Leigh, 2017). Although previous studies have investigated relationships between antecedents and purchase intention of wearable technology (e.g., Perry et al., 2017), no studies have further distinguished how consumers' previous purchase experience of wearable technology influence the purchase intention for the future. For example, for consumers with previous purchase experience of wearable technology, purchase requirements may be different from consumers who have never bought wearable technology; for consumers who have abandoned wearable technology, purchase requirements may be different from consumers who have not abandoned wearable technology. Therefore, the purpose of the current study is to investigate whether the relationships among the antecedents and purchase intentions of wearable technology are changed in different consumer groups. This knowledge is critical since business managers can tailor marketing strategies to meet different groups of consumers' needs.

Theoretical Framework. The technology acceptance model (TAM) has been used in various studies to investigate how consumers accept new technology based on their needs, perspectives and preferences (Davis, Bagozzi, & Warshaw, 1989). In this study, the relationships among ease of use, usefulness, performance, compatibility, attitude, and purchase intention were proposed based on TAM and previous studies (Davis et al., 1989; Perry, 2016).

Method. All measures were adapted from existing scales (Davis et al., 1989; Perry, 2016). Each item was measured by a 7-point Likert scale. A total of 581 participants from Amazon Mechanical Turk were recruited for a quantitative survey, including 246 males, 278 females, and 57 missing data. The ages ranged from 18 to 74 with an average age of 35 ($SD = 11.18$).

Results. Models were investigated in five samples: the overall sample (M1), those that bought (M2) and those that did not buy samples (M3), and those that abandoned (M4) and did not abandon samples (M5). All models' fit indices were good except M3 (Table 1). Therefore, M3 was excluded in the result part. The results indicated that the relationships among the antecedents and purchase intentions varied depending on the samples. For example, in the overall sample (M1), all hypotheses were supported except that usefulness did not influence purchase. However, in the sample where participants bought wearable technology (M2), ease of use did not influence

usefulness and attitude, and performance did not influence attitude. In the sample where participants abandoned wearable technology (M4), ease of use did not influence usefulness, and performance did not influence attitude. In the sample where participants did not abandon wearable technology (M5), ease of use and performance did not influence usefulness; ease of use, performance, and usefulness did not influence attitude; and different from all other samples, usefulness influenced purchase.

Table 1. Results of different samples.

Hypotheses	M1 All sample ($n = 581$)		M2 Bought: Yes ($n = 348$)		M3 Bought: No ($n = 133$)		M4 Abandoned: Yes ($n = 194$)		M5 Abandoned: No ($n = 154$)	
	β	t	β	t	B	t	β	t	β	t
Ease → Usefulness	.41***	<.0001	.01	.90	.79***	<.0001	-.03	.84	.12	.39
Performance → Usefulness	.27**	.002	.30*	.01	.12	.06	.38*	.05	.22	.13
Compatible → Usefulness	.19*	.04	.47**	.001	.09	.29	.45*	.01	.51**	.002
Ease → Attitude	.20**	.004	.15	.08	-.12	.43	.32**	<.0001	-.16	.28
Performance → Attitude	.26***	<.0001	.13	.17	.16	.09	.14	.21	-.06	.75
Compatible → Attitude	.30***	<.0001	.51***	<.0001	.36***	<.0001	.37**	.006	.81***	<.0001
Usefulness → Attitude	.25***	<.0001	.18*	.04	.65***	<.0001	.24*	.03	.18	.21
Useful → Purchase	-.09	.39	.14	.19	.08	.77	.04	.76	.36*	.01
Attitude → Purchase	.77***	<.0001	.72***	<.0001	-.01	.96	.81**	<.0001	.43**	.001
Fit indices										
χ^2	$\chi^2_{(123)} = 350.67$		$\chi^2_{(123)} = 222.53$		$\chi^2_{(123)} = 422.37$		$\chi^2_{(123)} = 213.75$		$\chi^2_{(123)} = 187.4$	
p	< .0001		< .0001		< .0001		< .0001		< .0001	
CFI	.95		.96		.84		.95		.95	
TLI	.94		.95		.80		.94		.94	
SRMR	.05		.04		.14		.04		.06	
RMSEA	.06		.05		.14		.06		.06	
R^2 (Usefulness)	.63		.53		.86		.47		.62	
R^2 (Attitude)	.84		.74		.90		.86		.62	
R^2 (Purchase)	.49		.68		.005		.79		.51	

Note: * = .01; ** = .001; *** <.0001.

Conclusion. The results indicated that the relationships among the antecedents and purchase were different in various samples. The difference suggested that people who have bought wearable technology had different requirements from the overall sample, and people who have abandoned wearable technology had different requirements from people who have never abandoned wearable technology. Therefore, future studies should not use an overall sample to report general results and should distinguish such differences between participants. In addition, business managers should tailor marketing strategies to different groups of consumers.

Reference

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