



Simplicity and Functionality in Technology Uptake



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Theory

Why are people drawn to new technologies? Is it because they allow us to do new things? Or because they are easy to use? Perhaps we are drawn to them because we see other people using them. To study why people might be drawn to a particular new device, we draw from the *Unified Theory of Acceptance and Use of Technology* (UTAUT; Workman, 2014). Research has used these ideas to predict technology use outcomes (Ventkatesh, Davis, & Morris, 2007).

The theory proposes four elements that motivates uptake of a new device:

- **Performance expectancy:** the degree to which individuals believe using a technology will help them achieve gains in executing a task
- **Effort expectancy:** the ease of using a system
- **Social influence:** how the use of smart applications and social media give individuals a sense of identity and help them connect with similar minded people
- **Facilitating conditions:** an individual's belief of how much the environment, information or ecosystem enables one to use a technology device

The research we conducted sought to test this theory by examining how these dimensions affect purchase intention of a new device. We tested reactions to ads that varied in their emphasis on the device's **functionality** (performance expectancy) and **simplicity** (effort expectancy).

Method

This theory was tested in an online survey of 164 college students. Participants viewed a mock ad that varied in its emphasis on simplicity and functionality. These variables were manipulated in a 2X2 factorial design which results in four different ad versions.

MEASURES

The following measured participants' expectations of general technological devices and specific devices in the ad

- Performance expectancy
- Effort expectancy
- Social influence
- Facilitating conditions

The dependent variable was participants' purchase intention for the advertised device.

Hypotheses

H1: General performance expectancy, effort expectancy, social influence, and facilitating conditions will predict purchase intention of the advertised device.

H2: Viewing the ad emphasizing simplicity will increase effort expectancy for the advertised device, which will in turn increase purchase intention.

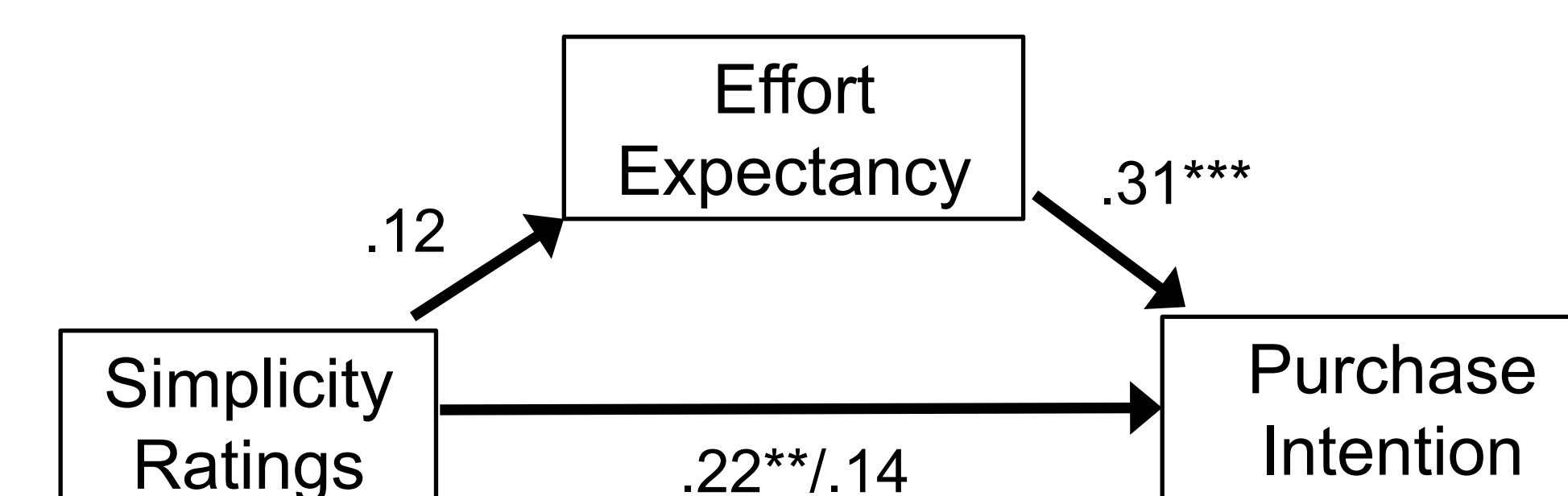
H3: Viewing the ad emphasizing functionality will increase performance expectancy of the advertised device, which will in turn increase purchase intention.

Results

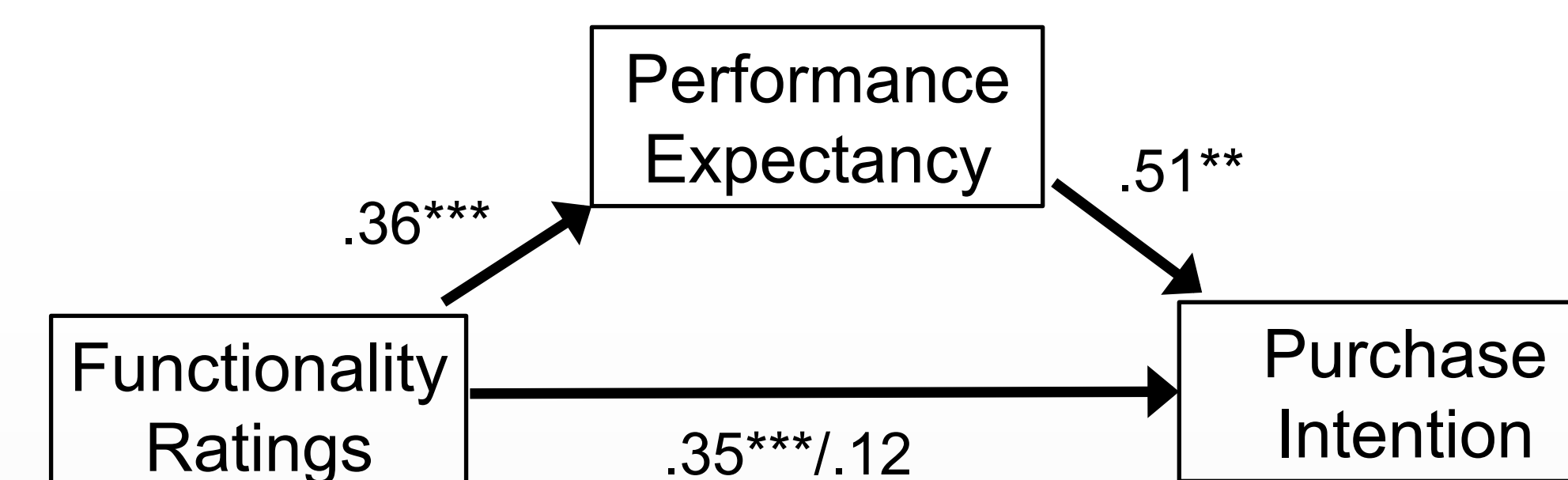
Regression analysis testing H1 was significant, $R^2=.18$, $F(4,157)=8.86$, $p<.001$.

Predictor	β	t
Performance Expectancy	.30	2.72**
Effort Expectancy	.14	1.25
Social Influence	.19	2.26*
Facilitating Conditions	-.29	-3.00**

The mediation analysis testing H2 found that effort expectancy predicted purchase intention and that it significantly mediated the effect of simplicity ratings: **H2 was supported**.



The mediation analysis testing H3 found that performance expectancy predicted purchase intention and that it significantly mediated the effect of functionality ratings: **H3 was supported**.



Discussion

This work provided support for the UTAUT model of technology uptake.

H1 was partially supported: in the overall regression analysis, only performance expectancy and social influence predicted purchase intention in the hypothesized direction. Surprisingly, facilitating conditions predicted *less* intention to purchase.

Emphasizing simplicity and functionality of devices is a powerful strategy: both increased purchase intention. Supporting the UTAUT model, these messages operated through effort and performance expectancy in predicted ways. Hypotheses H2 and H3 were supported.

Limitations:

The manipulations of simplicity and functionality were not very strong, so we used the manipulation check as the IV in the mediation models. This may be a result of using an online survey, which tends to reduce processing. Future work should examine this in greater detail.

References

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