

## More than Technology: Improving Mobile App Research Through Less Mobile App Focus

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### **Abstract:**

**Background:** With digitization and the spread of smartphones, mobile apps have become significantly more relevant in recent years. Research into the acceptance of mobile apps as a technology often focuses on the application of the Technology Acceptance Model (TAM). Nevertheless, there are some examples in the research that do not apply the TAM and help to identify new factors and thus improve mobile app research.

**Materials and Methods:** This essay discusses the TAM, as a model that focuses primarily on the technologies themselves. It then presents examples of research results from the context of mobile apps that do not apply the TAM.

**Results:** The presented literature from the context of mobile apps shows that apart from perceived usefulness and perceived ease of use, other factors exist that explain the acceptance and use of mobile apps in different contexts.

**Conclusion:** The acceptance and use of mobile apps depends on many factors. Research in this context should therefore focus more on identifying the less researched factors away from the TAM and quantifying their influence.

**Key Word:** Technology Research; Mobile Apps; Business Informatics; Consumer Behavior.

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### **I. Research on Technology Use: Focus on the Technology Itself**

In business informatics, research into the use of technologies by users already has a long history. With the "Technology Acceptance Model" (TAM), Fred D. Davis developed a model in 1985 that depicts the use of a system via the behavioral intention to use it and the attitude toward its use as a function of the perceived usefulness and the perceived ease of use of the technology [1]. The model is structurally based on the "Theory of Reasoned Action" by Ajzen and Fishbein from 1980 [2]. The model has been further developed several times; today TAM2 [3], TAM3 [4] and the "Unified Theory of Acceptance and Use of Technology" (UTAUT) [5] exist.

However, the original model is today the quasi-standard when it comes to predicting the use of a technology by users [6]. It has been applied in a wide variety of contexts around the world [7]–[11]. Nevertheless, it must be noted that the TAM assumes that the use of technology ultimately depends exclusively on whether the technology is perceived as useful and whether it is perceived as easy to use. This perspective is symptomatic - if only because of the importance of the TAM - to the study of technology acceptance as a whole: the focus is essentially on the technology itself, leaving out even numerous other potentially relevant aspects. These may include, for example, the manufacturer and/or the merchant of the technology, but also the context of use or the user himself.

### **II. Technology Use in the Larger Context**

This primarily technology-related perspective can also be observed in the context of mobile apps. With the digitization and the spread of smartphones all over the world, also the relevance of mobile apps has increased in the last years [12]–[14]. Research on the acceptance of mobile apps but also on other questions such as the recommendation of mobile apps is often primarily focused on the app as a technology itself, but not on the broader context. The interactions with other, non-technology-related variables are often not taken into account [9], [10], [15]–[19].

As an example of more comprehensive perspectives, an article by Sirdeshmukh et al. (2002) can be considered. While this work does not come from technology research, it provides a good example of what more comprehensive perspectives can look like. The authors examine how the perceived value of a purchase and the resulting customer loyalty emerge in the retail industry. They conclude that it is not just the purchase itself – good products at a good price – that leads to customer loyalty. Instead, they show that staff on the sales floor also play an important role. If the staff is perceived as benevolent, this has a positive effect on the perceived

value of the purchase and on customer loyalty - completely independently of the purchase itself. Thus, the article exemplifies how important broader perspectives can be in business management research.

This is why it can be assumed that greater consideration of the overall context will also provide new insights when looking at mobile apps – i.e., beyond the classic technology-oriented factors of perceived usefulness and perceived ease of use in TAM.

### **III. Mobile Apps: Examples of Interactions Apart From Technology**

In fact, there are already many examples in the field of mobile apps that show which factors have a significant influence on the installation or use of a mobile app - but are not connected with the app as technology or software.

For example, the work of Peng et al. (2014) shows that not only the mobile app with its functionalities plays an important role in the adoption of a branded mobile app. In particular, the brand loyalty of app users influences mobile app adoption [20].

Following on from this, work by Wohlbe et al. (2020) shows that a consumer's installation of a retailer's app is significantly affected by whether the consumer is satisfied with the retailer overall and would recommend it to others [21].

Conversely, observation show that consumers' use of mobile apps can be an important basis for customer value development. Rosa (2019) shows that a good mobile app's e-service quality has a positive effect on customer loyalty [22]. Other work suggests that mobile technologies have a positive impact on sales generated in brick-and-mortar retail outlets [23].

Another example is the app reviews of some mobile retail apps in the Google Play Store. Although these are actually used to evaluate the mobile app as such, some users also use the app reviews to evaluate the selection in the store or the friendliness of the employees, for example [24].

These examples from research and practice suggest that in reality, users of technology probably take into account many more factors than just the technology itself when considering whether they want to or will (continue) using a technology.

### **IV. Research on Mobile Apps to Be More Broadly**

The finding that the use of mobile apps is probably influenced by more than just the technology as such shows that research should not only focus on perceived usefulness and perceived ease of use as influencing factors. The TAM provides a largely standardized way to compare research findings, even from different contexts.

Nevertheless, many research studies also show that there can be many other factors, some of them highly significant, for the acceptance or use of a technology in general or a mobile app in particular.

This essay, originally prompted by the thoughts of Sirdeshmukh et al. (2002), is therefore a call to research to consider mobile apps not only as a technology, but also more strongly in their overall context. Specifically, this means also considering, for example, the app developer or publisher and its impact, but also, for example, the interactions with service, employees, and other potential influencing factors. In particular, more exploratory research could identify new potential influencing factors here.

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