

Defining the conceptual model for UNESCO digital trail development based on stakeholder technology acceptance: the case of Scottish National Trail

Giancarlo Fedeli, Krems University,
Miha Bratec, University of Primorska
Katarzyna Minor, Cardiff Metropolitan University

The concept of themed routes as tourist attractions has gained increasing prominence in the last decades. Such routes act to link a range of attractions (natural and built) that together or independently would have more limited appeal. Tourism trails have been identified as an effective element in several tourism contexts as they provide the ability to connect all significant sites in a particular area and can provide the needed services for its surrounding area (Goussous & Haddad, 2014). The rationale behind routes and trails is the synergy of linked route elements aimed at growing the number of 'pull' factors and dispersing visitor money among a larger number of recipients via longer durations of tourist stays (Goussous and Haddad, 2014). Consequently, this can also positively upgrade the quality of the local community's life.

Nevertheless, it is important to note that while there is a number of good examples of tourism trails, the evidence seems to be contrasting with relation to UNESCO endowed areas (e.g. Cuccia and Rizzo, 2013; Patuelli, Mussoni, and Candela 2013), as well as evidence in relation to their economic value of trails specifically is still lacking. To our best knowledge, only a few studies have measured the economic value and wider impacts of recreational trails, e.g. Bowker, et al., (2007) show that the Virginia Creeper Rail Trail's total net economic value and economic impacts indicate that the trail is a highly valuable asset both to users of the trail and to people in the local community who benefit economically from the induced tourist activities. With regards to UNESCO designated trails in particular, Devon County Council (SQW, 2015) showed that Tarka Trail contributes nearly 4 million each year to the economy of the biosphere and supports 56 full-time jobs.

In light of sparse evidence, it is imperative to maximize the possibility of economic benefits evidence, by providing adequate infrastructure, whilst balancing against negative consequences of trail development in a protected area, due to the high vulnerability of the natural assets (UNESCO, 2016). Developing digital trails, app solutions and self-guided tours may aid in this goal. This may not only help in visitor flow monitoring, but will aid in the educational/ protective aspects of natural resources by providing accurate information in relation to local attractions, protected areas (Muñoz et al., 2019).

However, digital trails open up additional questions when it comes to their implementation, namely the ones related to their adoption among the participating stakeholders. How ready they are to collaborate, especially in light of their readiness to adopt the digital solutions necessary for the effective realisation of such digital trail. Digital adoption has been a heavily discussed topic in tourism even prior to Covid-19 pandemics and a vast body of knowledge can be found in information systems research. Various technology adoption models have been applied in the search of explaining the adoption of digital technologies. While in tourism the Technology Acceptance model (TAM) proposed by Davies (1989) remains the most influential model, information systems research reveal it has been mostly substituted with the more contemporary frameworks such as Vekatesh et al. (2003) Unified Theory of Technology Acceptance and Use (UTAUT) and other frameworks dealing more with the organisational context of technology adoption (Baker, 2012).

The Scottish trail is, to date, the only UNESCO endowed digital trail, thus, creates a unique opportunity to examine the mid- and long-term viability of such an offering. Therefore, the purpose of this paper is to conceptually review existing technology adoption frameworks and seek for the one that would be most capable of explaining the adoption of digital technologies necessary for the assessment of the UNESCO trail in Scotland. The paper's scope is to consider a transfer of research frameworks usually

applied in single organisational context to the broader context of trail creation and management. This is achieved by reviewing and contextualising the elements of TAM, UTAUT and Technology, Organisation, Environment (TOE) framework proposed by Tornatzky and Fleischer (1990) and adjusting it to the context of UNESCO trail creation in order to propose a sound and testable conceptual framework capable of surveying the user adoption of innovative, digitally-based thematic trails that are becoming a relevant practice in linking and managing UNESCO heritage.

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