

REDUCING RESISTANCE TO REPEATING A WIKI ACTIVITY: WHAT CAN TEACHERS DO?

Abstract

The purpose of this study is twofold: first, following the Value-based Adoption Model (VAM), it examines the influence of drivers of perceived value (benefits), and its inhibitors, including non-monetary costs, to explain students' reluctance to repeat a specific e-learning activity; and second, it assesses the influence of peer interaction on the other perceived value factors. This research proposes learning performance, enjoyment, and peer interaction as benefits of a wiki-based activity, and includes time and effort costs and ease of use as sacrifices students incur during the activity. After undergraduate students finished the wiki activity they received a survey, from which 110 valid answers were obtained. The findings of this research reveal that the need to invest a lot of time and effort into the activity is the main reason why students are resistant to repeating it, while peer interaction and enjoyment help to reduce these perceived costs. The study contributes to the VAM research by providing evidence of the moderating effect of the value benefits on the relationship between perceived costs and resistance to repeating the activity. Implications for educators are provided according to the results obtained.

Keywords: Value-based Adoption Model (VAM); wiki; resistance; peer interaction; time and effort costs.

PRACTITIONER NOTES

What is already known about this topic:

- Most research has focused on students' satisfaction with online learning activities; however, students sometimes lose interest after their initial experience, or are unsatisfied with it, which may reduce their intention to repeat the activity.
- Continuing or repeating a learning activity depends on its value in terms of the cost-benefit trade off.
- Wikis are a source of collaborative and team learning.

What this paper adds:

- Evidence of the causes of resistance to repeating a wiki activity based on the Value-based Adoption Model.
- An example of how a wiki can be used not only for content generation but also as a forum for knowledge and learning generation.
- Evidence of the importance of enjoyment and peer interaction to reduce the negative effects of time and effort costs.

Implications for practice and/or policy:

- Time and effort costs are the main barriers to repeating an e-learning activity, so teachers should offer courses on how to work effectively as a team.
- Teachers should emphasize the benefits of the activity, not only in terms of final learning performance, but also regarding its hedonic and social value.
- When creating the activity, teachers should focus on how to generate enjoyment for students.

1. INTRODUCTION

Currently in higher education, teachers are taking advantage of social networks, such as YouTube, Twitter, Facebook, and wikis, to enhance students' participation and collaboration in the various tasks within their subjects (Camacho, Carrion, Chayah & Campos, 2016; Manca & Ranieri, 2013; Rodríguez-Hoyos, Haya Salmón, & Fernandez-Díaz, 2015.) Previous research has mainly focused on the adoption of innovations or on the positive results of an innovative learning activity. It has been proposed that while students are in favour of accepting any type of innovation in education, they sometimes lose interest after their initial experience (Lee, Choi & Kim, 2013; Lee & Choi, 2013; Sun, Tsai, Finger, Chen & Yeg, 2015). However, regarding students' participation in class activities, there are typically some who do not have a positive attitude toward innovations in the learning process, or who are not satisfied therewith (Cole 2009). Rogers (1983) suggested that such dissatisfaction is a reason for technology disenchantment and discontinuance.

Continuance of e-learning activities depends on the perceived value of those activities (Lee et al., 2013; Lee & Choi, 2013; Roca & Gagné, 2008; Sun et al., 2015). The Value-based Adoption Model (VAM) proposes that consumers or users decide whether to continue with the e-learning activity in terms a cost–benefit trade off. Costs can be monetary or non-monetary, and benefits can be utilitarian or hedonic. Most extant research has focused on satisfaction with or adoption of e-learning activities, while little research has addressed the causes of dissatisfaction in an educational context (Bouhnik & Marcus, 2006; Lee, 2010; Manca & Grion, 2017; Tharayil, 2018). Thus, the first objective of this research is, based on the VAM, to examine the influence of perceived value elements (benefits and non-monetary costs) to explain students' reluctance to repeat a specific e-learning activity – here, a wiki-based activity. We propose not only direct effects of benefits on resistance, but also moderating effects of these benefits on the relationship between perceived cost and resistance.

The current study is based on a learning activity carried out in the context of higher education. Participants of the activity were first-year undergraduate economics students. The proposed activity was participation in a wiki whose content was created by students; therefore, peer interaction is included in the model as the social value of the wiki-based

activity. This wiki-based learning activity was used not only for content creation (micro-case study), but also as a forum for enhancing critical thinking for first-year undergraduate students. The students had to identify a case study (real news), pose questions about it related to the topics addressed in the course, and provide the answers to these questions. One of the main advantages of using a wiki in the learning context is that it enhances collaborative learning through peer interaction and group work (Camacho et al., 2016; Lipponen, 2002; Felder & Brent 2003). However, little is known about how peer interaction can influence resistance to repeating the activity. Previous research has analysed the relationship of peer interaction with collaborative learning, engagement, satisfaction, and knowledge creation (Blasco-Arcas, Buil, Hernández-Ortega & Sesé, 2013; Cole, 2009; Chu et al., 2017; Hazari, North & Moreland, 2009; Jyothi, McAvinia & Keating, 2012; Zhu, 2012; Zydney, de Noyelles & Seo, 2012). Thus, the second objective of this study is to examine the effect of peer interaction on resistance to repeating the e-learning activity, and the relationship between peer interaction and the other perceived value elements.

The research contributes to the education literature, and more precisely to research in new technologies in education, by analysing a negative dependent variable – resistance to repeating the activity – instead of more typically considered positive outcomes, such as satisfaction with the activity or recommendation of it. Additionally, the paper contributes by adopting a different perspective to address this outcome. Previous research has focused on technology adoption models; however, this research focuses on the students' decision, at the end of the course, as to whether to repeat the e-learning activity. This applies the VAM in a way that is rare in education literature. Finally, the research contributes to VAM research by providing evidence of the moderating effect of the benefits on costs. Implications for educators are provided according to the results obtained.

The remainder of the paper is structured as follows. The next section reviews the use of wikis in education. Section 3 explains the model and the hypotheses. Section 4 describes the learning activity carried out in this study. Section 5 explains the methodology used and section 6 contains the results. The paper concludes in section 7 with a discussion, implications, and limitations of the study.

2. USE OF WIKIS IN HIGHER EDUCATION

In this research, we focus on the wiki as a work tool that can facilitate students' interaction and collaboration, and encourage their learning (Camacho et al., 2016).

As Allwardt (2011, p. 598) affirmed, "wikis are Web pages that allow multiple users to modify, edit and add content." This means that a group of people collaborates in the creation of knowledge about a subject of study. Augar, Raitman and Zhou (2004) highlighted two different forms of use of a wiki. The first is known as *document mode*, in which authors create content, editing and updating it gradually, and even simultaneously. The second is called *thread mode*, in which some users engage in discussion on a topic by creating different messages in the wiki environment, while others answer questions and give their own opinions on it, thereby co-creating content from their responses and comments to their peers.

Most studies have highlighted advantages of the use of wikis in education. For example, Elgort, Smith and Toland (2008), based on the opinions of master's students, concluded that both students and teachers see wikis as a very useful collaboration tool because they encourage individual participation and facilitate the collection and organization of all information handled in a group project. In this line, Hughes and Narayan (2009), who studied a post-secondary classroom in a university, and, later, Salaber (2014), who focused on a large postgraduate course, found that students perceive wikis as a positive tool that fosters collaboration efforts, learning, and engagement. Allwardt (2011), based on his experience with an undergraduate course, affirmed that the use of wikis to facilitate teamwork reduces the conventional problems of this type of work, as they improve the group's coordination and planning. Camacho et al. (2016) reported that wikis are useful for interaction, teamwork, collaboration, and group networking in the context of higher education.

However, prior research has also identified some disadvantages of wikis as learning tools. For example, they can be difficult to use, and require coordination of groups and the planning and assignment of tasks, which can reduce motivation and engagement (Biasutti, 2011; Allwart, 2011). Some researchers have also found that students felt they could have done the project or assignment better on their own (Elgort et al., 2018). In a study by Kear, Woodthorpe, Robertson and Hutchison (2010), both students and teachers found the wiki more difficult to use and slower than a forum. In addition, students were not

comfortable with editing the work of others on the wiki and were concerned about the ownership of contributions. However, the study was carried out on a higher education distance course and the level of participation in the survey was very low. On the other hand, Ioannou, Brown and Artino (2015), who considered master's students enrolled in a distance course, obtained results supporting the use of wikis (with discussion) in the context of online collaboration on case problems.

Therefore, the benefits of wikis in education are not clear, and more research seems necessary due to the inconclusive evidence provided (Hughes & Narayan, 2009; Ioannou et al., 2015; Kear et al., 2010; Schindler, Burkholder, Morad & Marsh, 2017). To obtain new evidence on the benefits of wikis in higher education, we developed a learning activity that was implemented in a wiki environment. In this activity, students could not only create content (micro-case study), but also start discussions between teams based on questions posed by other teams. Our focus is on students' reasons for not repeating the wiki activity.

3. MODEL AND HYPOTHESES: DRIVERS AND INHIBITORS OF RESISTANCE

The VAM is a theoretical framework proposed by Kim, Chan and Gupta (2007). It has been mainly used in research on technology adoption (Ko, Kim & Lee, 2009; Lin, Wu, Hsu & Chou, 2012), and it has rarely been applied to an educational context. According to the model, users' intentions to continue to use, or repeat the use, of a technology depends on the overall value they perceive from that technology.

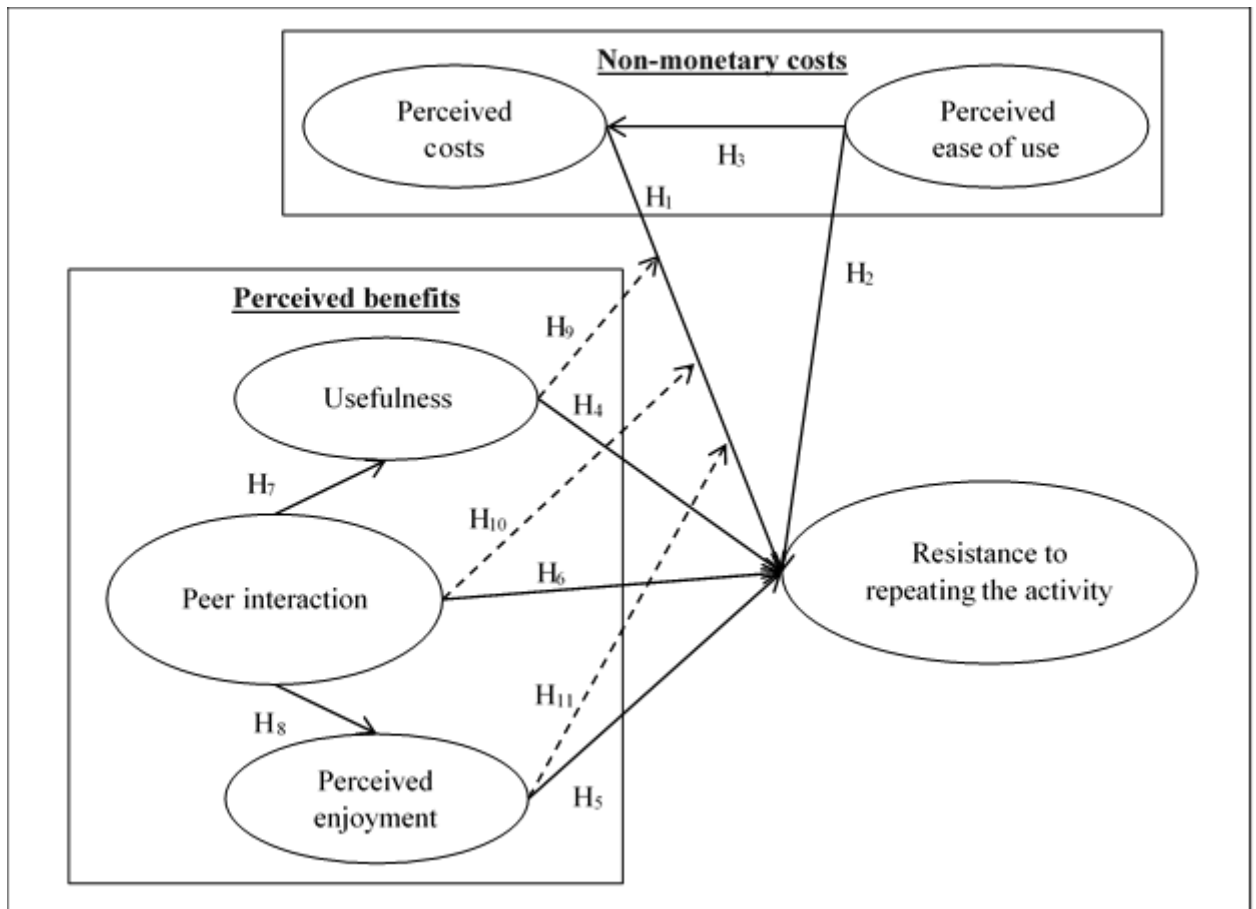
The VAM comprises two components: benefits and costs. The benefits analysed have been classified in multiple ways, but most frequently into performance value (i.e., utilitarian benefits), emotional value (e.g., enjoyment), and social value (Gummerus & Pihlstrom, 2011). In extant research performance value is defined as the utility of the product or service, and extrinsic factors related to the technology have been included. Previous research has also assessed perceived usefulness or perceived benefits (Kim et al 2007; Ko et al., 2009; Lucia-Palacios et al., 2016). Emotional (hedonic or experiential) value is the perceived utility of a digital item based on the item's capacity to arouse feelings or affective states (Lee, 2010; Lin et al., 2012). Usually, enjoyment is analysed based on this type of value. Social value is the perceived utility of a digital item or service based on its ability to enhance one's social well-being. This is very important, as

interaction (with peers, teachers, or the course and materials) is the foundation of e-learning (Liaw, 2008; Sun et al., 2008). Social learning and collaboration are two valuable aspects to consider in wiki-based activities (Hazari et al., 2009). As sacrifice (cost) components, previous research (Chu & Lu, 2007; Kim et al., 2007) has included perceived price or fees, and non-monetary costs (learning costs, time, or technical factors).

In this study, we are interested in understanding which factors make students resist repeating an activity in an online environment. Previous research has already addressed the causes and drivers of resistance to conducting an e-learning activity – mainly from a qualitative perspective (Manca & Grion, 2017). For example, students have been found to be reluctant to engage in academic activities on Facebook because of the discomfort triggered by the blending of social and study life (Gosper Malfroy & McKenzie, 2013), their limitations in using the platform (Blin & Munro, 2008), and their lack of self-confidence (Rudduck & Fielding, 2006). Furthermore, the drivers of resistance to collaborative learning, such as previous negative experiences, poor dynamics in the group, or different levels of effort put in by group members, can explain resistance to group e-learning activities (Allan, 2016; Janssen & Wubbels, 2018; Stover & Holland, 2017).

Some previous studies have also provided examples of how to reduce resistance to learning activities, such as giving students feedback and support throughout the activity (Yadav et al., 2011), clearly explaining the purposes and expectations of the activity (Strobel & van Barneveld, 2009), making the activity more enjoyable (Stover & Holland, 2018), and aligning the activity with other course assessments (Bentley et al., 2011). However, most of these proposals are anecdotal, and do not have much empirical support as they are mainly qualitative (Tharayil et al., 2018). Furthermore, they focus on resistance to an unknown activity; in contrast, the present paper analyses the causes of resistance to repeating a known activity. As a consequence, following the VAM proposal, we analyse the influence of certain perceived costs and benefits on resistance toward a wiki-based activity. Moreover, we test whether perceived benefits reduce the costs that students associate with the activity. Figure 1 shows our proposed model and hypotheses.

Figure 1. The Proposed Model



3.1. Non-monetary costs

3.1.1. Perceived costs

Perceived costs are inhibitors of participation in e-learning, and refer to students' perceptions of effort and time invested in understanding and adapting to the new activity and use of the wiki (Jones, Mothersbaugh & Beatty, 2000; Lucia-Palacios, Pérez-López & Polo-Redondo, 2016). These costs are derived from the complexities of the technology, difficulties in following the programming imposed by the teacher, and organizational and coordination problems that may result from the group e-learning environment (Biasutti, 2011; Bligh & Coyle, 2013; Manca & Grion, 2017; Stover & Holland, 2018). In a study by Allwardt (2011), students were reluctant to use the wiki mainly because of time-management issues, group coordination concerns, and assignment parameters. In our context, students take into account the costs of completing the activity, such as the time and effort invested in looking for case studies, learning how to use the wiki, and

coordinating and negotiating team activities. Since higher costs creates a barrier to repeating the activity, we propose:

H1: Perceived costs positively influence resistance to repeating the activity.

3.1.2. Perceived ease of use

In this study, perceived ease of use is defined as the extent to which the students believe that the technology involves no effort (Cheung & Vogel, 2013; Davis, Bagozzi & Warshaw, 1989). A wiki is easy to use if it is also easy to access, and if its interface design facilitates the navigation, editing, and co-creation of the course resources and content (Guo & Stevens, 2011; Wu & Chen, 2017). Previous research has shown a positive influence of perceived ease of use on the continuous use of a learning technology (Chen & Yuen, 2018). In our context, as most of the first-year undergraduate students have not used a wiki before, they must invest time and effort into learning how to use it, how to upload information and links, and how to participate in the forum. Thus, we expect that perceived ease of use will reduce the perceived costs of the activity (Venkatesh, Thong & Xu, 2012). Therefore, we propose:

H2: Perceived ease of use will negatively influence resistance to repeating the activity.

H3: Perceived ease of use will negatively influence perceived costs.

3.2. Perceived benefits

3.2.1. Usefulness of the activity for learning performance

Perceived usefulness is the degree to which the student believes that the activity will improve her or his learning performance (Davis et al., 1989). Perceived usefulness has been found to explain users' attitude, acceptance of a technology, and intentions to continue using it (Lee, Cheung & Chen, 2005; Lucia-Palacios et al., 2016; Wu & Chen, 2017). In the context of an e-learning activity, when students perceive that the activity has been useful, they also have a better attitude toward it and are more satisfied with the activity (Liu, Li & Carlsson, 2010; Lucia-Palacios et al., 2016). Regarding our context, the proposed activity will promote critical thinking skills, and give them the opportunity to study the matter in more depth, create content, and be involved in a debate about the concepts of the subject, all of which may be perceived as useful (Caron & Caronia, 2008; Kennedy & Cuts, 2005). Thus, we propose:

H4: Perceived usefulness will negatively influence resistance to repeating the activity.

3.2.2. Perceived enjoyment

Perceived enjoyment is the extent to which the activity is perceived to be enjoyable in its own right, aside from the instrumental value of the technology, and is an important variable in the adoption of technologies (Davis et al., 1992) and in the learning environment. Thus, perceived enjoyment reflects the hedonic motivation to accept a technology, and can also refer to intentions to continue using it (Lee, 2010; Peters, Barbier, Faulx & Hansez, 2012) or, as in our case, to continue participating in an e-learning activity (Lee & Choi, 2013). Enjoyment is a positive feeling related to creative achievements, leads to greater learning performance and effort, and fosters engagement with the subject (Hamari et al., 2016; Schukajlow & Krug, 2014). Consequently, we propose the following hypothesis:

H5. Perceived enjoyment will negatively influence resistance to repeating the activity.

3.2.3. Peer interaction

Peer interaction has received considerable attention in education research (Blasco-Arcas et al., 2013; Chu et al., 2017). The concept refers to students' interaction in learning processes in order to achieve a common goal (Prince, 2004). This type of learning is analysed under the social constructivism perspective, based on social interactions among learners and the development of a critical thinking process (Kalina & Powell, 2009). Wikis have the potential to enhance communication and social interaction, which may result in greater knowledge retention, an increase in critical thinking, involvement with the subject, engagement and satisfaction with the e-learning activity, and encouragement of student learning and achievement (Al-Rahmi, Alias, Othman, Marin & Tur, 2018; Piccoli, Ahmad & Ives et al., 2001; Raman & Ryan, 2004). In activities conducted through a wiki, students learn how to offer ideas to the rest of the class and learn to consider other points of view in the light of peer discussions (Rowntree, 1995). As the students' work can be viewed by their peers, they can learn from each other (Lai & Ng, 2011). Furthermore, they engage in higher-order processing of information to build their own knowledge as a product of their contributions (Bates, 1995). Therefore, as previous research has suggested, interactions in online platforms enable knowledge creation (Blasco-Arcas et al., 2013; Jyothi, et al., 2012; Lai & Ng, 2011; Zydney, et al., 2012). In

our activity, the use of a discussion forum on the wiki was intended to encourage students to discuss ideas and debate points of view critically.

The relationship between interaction with peers and enjoyment has rarely been analysed. However, most research about the adoption of, or intentions to continue to use, computer-based learning activities has included enjoyment (Hulbert-Williams, 2010; Kear et al., 2010; Salaber, 2014). We propose that interaction creates an affective state in the learner. Previous research has found that when team members perceive their interactions as contributing to the group work and to creating knowledge, the activity is enjoyed to a greater extent (Gomez et al., 2010). Furthermore, in other computer-based activities, such as online games or simulations, previous research has found that students enjoy the activity due to the social interactions involved (Sweetser & Wyeth, 2005). Similarly, the relationship between peer interaction and reluctance to repeat an e-learning activity or to discontinue the e-learning activity has not been analysed previously. However, as enjoyment and usefulness are drivers of the perceived value of the activity and of satisfaction, peer interaction is also a benefit of the wiki that is part of its social value (Hazari et al., 2009). Therefore, we propose a negative influence on resistance to repeating the activity:

H6: Peer interaction will negatively influence resistance toward the activity.

H7: Peer interaction will positively influence perceived usefulness.

H8: Peer interaction will positively influence perceived enjoyment.

3.3. Moderating effect of benefits on the relationship between perceived costs and resistance to repeating the activity

Individuals adopt new technologies when they perceive that they can improve their performance by doing so, and that the benefits received compensate for the perceived time and effort necessary to learn how to use the technologies (Ha, Canedoli, Baur & Bick, 2012). Furthermore, learners' activities all require an investment of time, so they want their classroom and personal time to be used efficiently (Laurillard, 2007). We expect that greater perceived advantages of the activity will make students relativize the perceived time and effort associated with that activity. If students perceive that the activity is useful to accomplish their learning goals, they will be willing to assume higher costs in order to understand and adapt to it.

Interaction in social networks enriches students' learning and engagement, and facilitates group discussions (Al-Rahmi et al., 2018). Learners perceive higher collaboration and learning to occur when they feel that they can learn from others and that others can learn from them (Lai & Ng, 2011). Thus, as long as they have this perception, they will also perceive that the time and effort invested in the activity is worthwhile, such that the effect of the costs of the activity on continuing it will be reduced. Therefore, peer interaction reduces the effect of the time and effort costs of the activity on resistance to repeating it.

The effect of the perceived costs of the activity may also be reduced by increasing the emotional value or enjoyment derived from it. Enjoyment can act as an inhibitor of the perceived time and effort costs. While these costs reduce the value that the user obtains when using the new technology, enjoyment is associated with greater value (Lu & Lin, 2012). That is, students that have enjoyed the activity will have a lower perception of the time and effort invested in it because they will obtain an intrinsic reward from investing that time (Teo & Noyes, 2011). Therefore, the following hypotheses are proposed:

H9: Perceived usefulness will negatively moderate the relationship between perceived costs and resistance toward the activity: the higher the perceived usefulness of the activity, the lower the effect of perceived costs on resistance to repeating the activity.

H10: Peer interaction will negatively moderate the relationship between costs and resistance, mitigating its positive effect: the higher the perceived peer interaction, the lower the effect of perceived costs on resistance to repeating the activity.

H11: Perceived enjoyment will negatively moderate the relationship between costs and resistance to repeating the activity: the higher the perceived enjoyment of the activity, the lower the effect of perceived costs on resistance to repeating the activity.

4. DESCRIPTION OF THE ACTIVITY

The participants in this study were students of a Spanish public university. They were enrolled in "Fundamentals of Marketing", which is a first-year undergraduate course in the second semester of an economics degree. The teachers created a wiki for each class using Googlesites.

To design the wiki activity, following guidelines from Manca and Grion (2017) and Cole (2009), the teachers had to ensure the following: first, the activity had to motivate students, since this would help them to better understand the subject contents and,

therefore, to pass the course with good grades; second, the activity had to enhance transversal skills, such as collaboration, discussion, and communication with others; third, in order to ensure the students' confidence and active participation in the project, teachers had to provide a detailed guide about how to use the wiki, and the activity process. In this sense, an initial session was conducted to show students an example of how the task should be carried out.

The activity of the wiki consisted of selecting a case study from current news from the digital press whose content could be related to the marketing subject. From this news, one or two questions were posed that the students had to answer throughout the week, always using concepts worked on during the course. In the following practice class, the different answers, the degree to which they were correct, and the different arguments provided were discussed. The activity was carried out in teams of four or five students.

On one hand, the teacher's role in this activity was to verify that the case chosen by the corresponding team was related to the content of the subject, and that the questions posed to the class allowed students to delve into a certain marketing concept. In addition, the teacher stimulated a discussion environment and the search for more information or examples and, at the end of the week, uploaded the right answer to the wiki.

On the other hand, the students grouped into teams interacted at two levels: with their peers within the group, and with the other groups. With their teammates, they had to agree on the case study to be analysed, the question to be asked, and the answer they thought was correct. Once the case had been uploaded to the wiki, the rest of the teams had to answer the question posed and provide new answers if they thought the ones given were incorrect, providing more arguments or examples.

Thus, at the end of the semester each class had between 9 and 10 study cases, with corresponding questions that were similar to those students would find in their final exam. The students contributed to understanding of the marketing subject by working on current business examples, while the wiki was also used as a forum in which students could provide their own opinions and learn from others.

Figure 2 shows the study case chosen by one of the teams in the second week, during which this team also proposed one or two questions to the rest of the class. The answers provided by the other teams are also displayed and, at the end, the teacher's comments in response.

Figure 2. Screenshot showing the activity proposed by a team over a week and nested responses from the rest of the teams

Presentación

Objetivos de la wiki
Instrucciones para el uso de la wiki

Noticias de nuestra

NOTICIAS

Noticias Semana 1
Noticias Semana 10

Noticias Semana 2

Noticias Semana 3
Noticias Semana 4
Noticias Semana 5
Noticias Semana 6
Noticias Semana 7
Noticias Semana 8
Noticias Semana 9

Sin título

Mapa del sitio

NOTICIAS -

Noticias Semana 2

¿Por qué los videos de recetas y comida son el último gran boom en redes sociales?

Los videos de comida y de recetas se han convertido en un reclamo muy importante dentro de las redes sociales, sirviendo de engagement en videos sociales. ¿Cuáles pueden ser las principales razones este éxito?, ¿qué claves encierran este tipo de videos para tener tanta popularidad?. La lectura de esta noticia te permitirá responder a estas preguntas. Pero además,

Relaciona esta noticia con la asignatura a través de la respuesta a las siguientes cuestiones:

«¿Por qué las marcas o empresas de comida cada vez están más interesadas en las redes sociales y en concreto en este formato de videos?»
«¿Qué necesidades pueden cubrir los videos y la comida de los que habla la noticia? (Pídale de Maslow)

➕ Añade archivos

Comentarios

Elena Fraig
Añade un comentario

Staphanie Halligan
Grupo 9

27 feb 2017

1. Las marcas de comida están más interesadas en las redes sociales y este formato de videos porque es una forma gratuita de publicidad, por poniendo videos en las redes sociales como Facebook y Instagram, la empresa puede atraer la atención de muchos clientes potenciales por todo el mundo. También la parte se siente parte de un comunidad porque puede compartir los videos con sus amigos, familia o compañeros de trabajo que quizás tengan interés también.

2. Pensamos que la principal necesidad es la necesidad social porque la gente están compartiendo estos videos con amigos y familia y también así como comentando en las redes con su opinión de la comida/receta.

Responder

Elena Fraig

21 mar 2017

1.- Las marcas de comida están interesadas en las RRSS como YouTube, o también facebook porque los consumidores están poniendo cada vez más atención a estas plataformas y, en particular, a videos de contenido "foodie", algunas incluso han creado su propio canal especializado en recetas de cocina. La razón parece encontrarse según algunos estudios en que se trata de videos que llegan muy bien al consumidor y que tienen una audiencia muy específica y entregada. Estos videos "crean comunidad": la comida es una institución de gran importancia en nuestra cultura y siempre se ha relacionado con lo social.

2.- La principal necesidad que veo que puede cubrir la acción de grabar la elaboración de una receta y compartirla en las redes, es social.

Responder

Javier Luciano
Grupo 2:

23 feb 2017

1.- Respecto a la pregunta numero uno: Actualmente las redes sociales se han consolidado como uno de los principales medios de difusión de información ya sea vía artículos cortos, imágenes o videos como es el caso, esta es la razón por la cual las empresas, han decidido optar por este segmento, como son las redes sociales, y de esta forma aprovechar su popularidad llegando a un mayor numero de consumidores.

Estas paginas están muy centradas, orientadas y dirigidas al consumidor lo que hace que la publicidad sea muy eficaz, provocando en el consumidor una sensación de productividad y comunidad al unir gente con los mismos gustos, identificando

Isabel Isiegas
Grupo 14:

23 feb 2017

En la pregunta 1, pensamos que hoy en día las redes sociales y la tecnología forman parte de nuestras vidas ya que han evolucionado a lo largo del tiempo y es el medio de comunicación más rápido y sencillo para transmitir videos cortos y mantener nuestra atención.

Y en la pregunta 2. Pensamos que son necesidades fisiológicas básicas, pues la cocina cubre la necesidad de alimentación. Social, ya que a través de las redes sociales buscan atraer la atención de los visitantes para dar a conocer el producto y de autorealización porque los que realizan la receta lo que pretenden es encontrar una mejoría para satisfacerse a uno mismo.

Responder

Cristina Margalejo
Grupo 11

23 feb 2017

1. Debido a la gran afluencia de público en las redes sociales, ésta es un buen escaparate para dar visibilidad a los productos, y sobretodo a las novedades. Además, se trata de un formato que no necesita grandes inversión pues son videos cortos que quieren llamar la atención de los consumidores con recetas fáciles y económicas. Como en nuestra sociedad no está muy bien visto el marketing, las empresas tienen dificultad para ser creíbles en sus mensajes, por ello, han buscado una nueva estrategia de marketing a través de las redes sociales y los llamados "influencers", ya que con un influencer ganan en credibilidad porque si siguen a alguien es porque lo crees y por lo tanto si recibes información de esa persona eres más propenso a creerlos. Por otro lado, si nos centramos en la publicación de nuevos productos, éstos principalmente están dirigidos al público joven ya que el publico mayor es más reacio a salir de su zona de confort para probar nuevos productos, por ello el canal elegido son las redes sociales, que en su gran mayoría son utilizadas por el publico joven. Es decir, si se desea publicitar un producto principalmente dirigido hacia los jóvenes, no hace falta que una empresa gaste mucho dinero en marketing publicitándola en muchos canales, basta con publicitarta en aquel canal más utilizado por el publico a quien se dirige.

2. -Necesidades fisiológicas básicas: alimentarse y saciar el hambre es una necesidad fisiológica básica.
-Necesidades sociales: uno de los fines a los que se pretende llegar, además de dar a conocer el producto, es crear/establecer una relación entre todos los visitantes y que entre ellos, se aporten sus diferentes puntos de vista para así lograr un mejor resultado final.
-Necesidad de autorealización: Los consumidores buscan constantemente la mejoría, la superación personal.
-Necesidad de ego: reconocimiento al trabajo bien hecho por partes de las empresas en el caso de que los videos tengan un gran numero de visitas.

Responder

Helena Ibarra
Grupo 4:

23 feb 2017

Primera cuestión:
Puede deberse a que las redes sociales y las nuevas tecnologías son más usadas, sobre todo por la población joven debido a la fuerte repercusión que han adquirido y a su vez, dicha población es la que menos dotes culinarios tiene en términos generales. Por este motivo, estos programas se han expandido a plataformas como YouTube o Facebook. Se centran en el formato de videos, principalmente, porque es mucho más sencillo comprender las recetas siguiendo continua y visualmente cada paso a seguir de manera que se logre un óptimo y satisfactorio resultado.
Culturalmente, el campo de la cocina se ha abierto debido a las nuevas técnicas y múltiples innovaciones que se han dado, sobre todo en la última década, además de incorporar diversas gastronomías como la oriental.

Segunda cuestión:
En primer lugar, destacáramos la necesidad fisiológica básica, por el mero hecho de evitar la inanición. Otra a destacar, sería la social, por el fin comunicacional que se adquiere a través de las redes sociales. Y por último, recalcaríamos la necesidad de autorealización, porque satisfacer las necesidades anteriores conlleva independencia y placer psicológico de la persona.

Responder

adrian molis
GRUPO 7:

23 feb 2017

1. Las empresas están interesadas en las redes sociales y en los videos porque es otra forma de dar a conocer su producto y que como antes se hacia la publicidad de boca en boca ahora se puede conseguir lo mismo pero a una escala mucho mayor. Es decir, es un nuevo medio que usa el marketing para hacer publicidad y al que se tiene que adaptar como hemos leído en el caso de que se use Facebook u otras plataformas. Y es un reflejo de la sociedad cambiante que usa otros medios y que las empresas buscan hacerse presente para asegurarse que su mensaje llegue a todo el mundo, con un mensaje claro y conciso.

2.

Hay nuevas actuali

Source: <https://sites.google.com/site/fundamentos213201617/home>.

5. METHODOLOGY

5.1. Sample

Data was obtained through a questionnaire that all students answered just before the final exam. The decision about when to distribute the questionnaire was made based on the fact that all the micro-cases that were available via the wiki could be used by the students

to prepare for the exam, thereby further increasing the usefulness of the activity. A total of 169 questionnaires were collected, of which 110 related to students that took part in the activity. Respondents were roughly equal in terms of sex (55.6% male and 44.4% female). Most of the students were 19 to 21 years old, and only 4% were over 21 years old.

5.2. Definition of the variables

Measurement of the variables was carried out following previous research, and is provided in the Appendix. All constructs were reflective and measured using a seven-point Likert scale, from 1 = “completely disagree” to 7 = “completely agree.”

The dependent variable, resistance to repeating the activity, consisted of three items from previous research, adapted to the learning environment (Gupta, Hong & Kim 2007; Kim & Kakanhalli 2009; Pritchard, Havitz & Howard 2007). Perceived costs consisted of three items adapted from Moore (2000) and Jones et al. (2000). These costs were related to the time and effort invested in the activity. The variable perceived ease of use was measured using a three-item scale proposed by previous research (Karahanna, Agarwal & Angst 2006; Venkatesh, Morris, Davis & Davis 2003). Perceived usefulness was also measured using three items adapted from previous research (Blasco et al., 2013; MacGeorge et al., 2008). Perceived enjoyment was obtained from Chin and Gopal (1995), and again consisted of three items (from Chin and Gopal’s [1995] four-item construct, the item “The task was exciting” was eliminated from the questionnaire as it was not suitable for the context of study). Peer interaction was a reflective five-item construct based on previous research (Hazari et al., 2009) and that has been used in other research (Chu et al., 2017). The construct reflects peer interaction and the learning through that process, but one item was eliminated (“With the wiki my group was able to come to a consensus faster”) because the main use of the wiki was as a discussion forum, and not as a content-generation tool.

Common method variance could pose a serious problem in this study. Thus, Harmon’s one-factor test was conducted, with results showing that a single factor explained 17.5% of the variance, while the variance explained increased to 85% when considering all factors of the model. Thus, the data does not show a common method variance problem.

6. RESULTS

Table 1 shows the descriptive statistics of the variables created by calculating the mean of their indicators. Perceived costs and resistance to repeating the activity show the greatest dispersion around the mean, and perceived usefulness and ease of use present the greatest mean and lowest dispersion. We tested whether there were differences among groups in terms of the main variables, and results showed that there were no significant effects. Thus, we conclude that there was no teacher effect in this study.

Table 1. Descriptive results

	Min.	Max.	Mean	S.D.	Mode	Mean group 1 (N=63)	Mean group 2 (N=44)	F
Peer interaction	1.50	7.00	4.75	1.07	5.00	4.762	4.77	0.998
Costs	1.00	6.67	3.49	1.34	2.00	3.38	3.60	0.405
Usefulness	2.00	7.00	5.05	1.17	6.00	4.93	5.23	0.191
Resistance	1.00	7.00	2.90	1.61	1.00	3.02	2.77	0.429
Enjoyment	1.33	7.00	4.75	1.24	5.00	4.69	4.85	0.528
Ease of use	2.00	7.00	5.82	1.18	7.00	5.77	5.90	0.600

6.1. Measurement model validation

An exploratory factor analysis using SPSS was carried out to check the unidimensionality of the reflective constructs. Our factorial analysis with varimax rotation suggested five dimensions, as enjoyment and usefulness are highly correlated.

Confirmatory factor analysis and discriminant validity analysis were used to reveal whether enjoyment and usefulness were part of the same construct or were two different constructs. The confirmatory analysis was carried out using SmartPLS 3.0 software. Table 2 shows the results of the measurement model. We eliminated one item from the perceived ease of use construct, and one item from peer interaction, because their factor loadings were less than 0.7 (Carmines & Zeller, 1979). Cronbach's alpha values and the composite reliability index for all constructs exceeded the minimum of 0.7 (Nunnally, 1978; Hair, Ringle & Sarstedt, 2011), confirming internal consistency. To evaluate discriminant validity, the average variance extracted (AVE) was obtained; this exceeded the threshold of 0.6 (Hair, et al, 2011). Table 3 shows the discriminant validity results, based on the criterion of Fornell and Larcker (1981).

Table 2. Measurement validation of reflective constructs

	Loadings	Cronbach's alpha	Composite reliability	Ave
USEFULNESS				
LEARN_1	0.924	0.914	0.946	0.853
LEARN_2	0.898			
LEARN_3	0.949			
COSTS				
COST_1	0.850	0.783	0.866	0.692
COST_2	0.781			
COST_3	0.925			
EASE OF USE				
PEOU_1	0.977	0.921	0.960	0.924
PEOU_2	0.945			
PEOU_3	ELIMINATED			
RESISTANCE				
RESIST_1	0.909	0.907	0.941	0.843
RESIST_2	0.937			
RESIST_3	0.908			
ENJOYMENT				
ENJOY_1	0.906	0.900	0.933	0.874
ENJOY_2	0.916			
ENJOY_3	0.920			
PEER INTERACTION				
COLLAB_1	ELIMINATED	0.896	0.907	0.830
COLLAB_2	0.882			
COLLAB_3	0.913			
COLLAB_4	0.909			

Table 3. Discriminant validity

	Costs	Ease	Enjoy	Resistance	Learning performance	Peer interaction
Costs	0.874	0.053	0.283	0.618	0.200	0.240
Ease of use	-0.049	0.961	0.484	0.190	0.492	0.430
Enjoyment	0.139	0.428	0.935	0.201	0.802	0.770
Resistance	0.516	-0.178	-0.229	0.918	0.219	0.261
Usefulness	0.139	0.450	0.705	-0.201	0.924	0.790
Peer interaction	0.141	0.358	0.636	-0.221	0.641	0.911

Note: Diagonal (bold): squared roots of the AVE. Below the diagonal: correlations between variables. Above the diagonal: values for heterotrait–monotrait ratio criterion.

Table 3 also shows results for the alternative method to test discriminant validity proposed by Henseler, Ringle and Sarstedt (2015): the heterotrait–monotrait (HTMT) ratio of correlations. Discriminant validity was tested using this alternate method (see Table 3), and all values are below 0.85, meaning that there is discriminant validity among constructs. The model was also tested using consistent partial least squares (PLSc) to obtain more robust results of the measurement model.

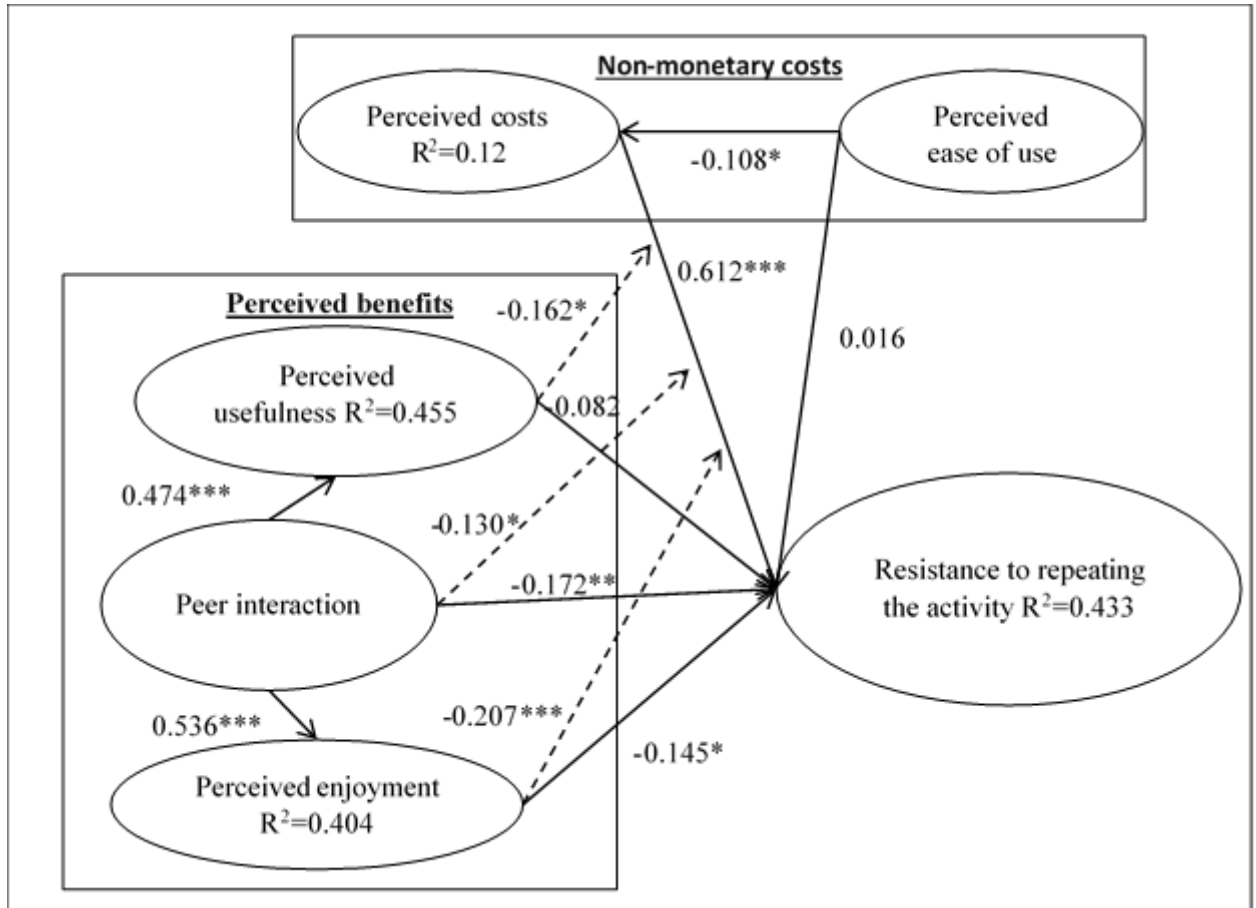
6.2. Hypotheses testing

Figure 3 shows the results of the path coefficients. We used SmartPLS 3.0 M3 (www.smartpls.de). To test predictive relevance, the software provides the Q^2 proposed by Stone (1974) and Geisser (1974). Our models show positive Q^2 values for the main dependent variables – resistance ($Q^2 = 0.316$), usefulness ($Q^2 = 0.358$), enjoyment ($Q^2 = 0.335$) and costs ($Q^2=0.10$) – which suggests that the model has predictive validity. Other measures used to test the model goodness-of-fit included construct communality (costs = 0.375, enjoyment = 0.489, resistance = 0.598, usefulness = 0.554, ease of use = 0.554, and peer interaction = 0.399).

The results suggest that costs have a positive and significant effect on resistance to repeating the activity, confirming H1. It has been suggested that perceived ease of use will negatively influence resistance to repeating the activity and perceived costs. The results confirm H3 but not H2, as the relationship between ease of use and resistance is not significant. Likewise, perceived usefulness has no significant effect on resistance, so H4 cannot be confirmed. Perceived enjoyment and peer interaction show negative and significant effects on resistance to repeating the activity, confirming H5 and H8. Furthermore, peer interaction exerts a positive and significant influence on usefulness and enjoyment, confirming H6 and H7. The results show that all the moderating effects are significant and in line with the hypotheses, confirming H9, H10, and H11.

Because we did not expect a non-significant relationship between ease of use and resistance, we tested whether costs might act as a mediator. Additionally, the role of enjoyment as a mediator between peer interaction and resistance to repeating the activity was examined. For this analysis, the methodology proposed by Preacher and Hayes (2008) was used, with a bootstrapping of 5,000 samples. Table 4 shows the results of the mediation analysis. A total mediation effect can be seen from perceived costs; that is, this construct acts as a mediator between ease of use and resistance to repeating the activity. However, no indirect effect is found in the peer interaction–enjoyment–resistance to repeating the activity path.

Figure 3. Structural results



*** Significant at 1%; **significant at 5%; * significant at 10%

Table 4. Mediation effects

Total effect	Resistance (c path)	Direct effect of IVs			Indirect effect		
		Resistance (c' path and b path)	Enjoyment (a path)		BC 95% confidence interval		
					Indirect effect	Lower	Upper
Peer interaction	-0.204**	-0.171*	0.270**	Mediators			
Enjoyment		-0.123*		Enjoyment	-0.033	-0.129	0.02
Total effect		Direct effect of IVs			Indirect effect		
	Resistance (c path)	Resistance (c' path and b path)	Costs (a path)		BC 95% Confidence interval		
					Indirect effect	Lower	Upper
Ease of use	-0.137*	-0.009	-0.122*	Mediators			
Costs		0.578**		Costs	-0.119	-0.213	-0.011

***significant at 1%, ** significant at 5%. IVs: independent variables; BC: bias corrected.

7. DISCUSSION OF FINDINGS, AND CONCLUSION

This research examines the drivers and inhibitors of resistance to repeating a wiki activity among undergraduate students. The theoretical framework used is the VAM, so hedonic, utilitarian, and social values are included as inhibitors, and costs as drivers. We expand the original model by including other relationships among the variables and proposing that social value, measured through peer interaction, is a driver of the other two benefits, enjoyment and usefulness. The research contributes to the literature not only by providing new evidence of the factors that influence a negative outcome instead of a positive one (such as satisfaction or recommendation), but also by demonstrating the moderating effects for the different elements that offer value to students on the costs of the activity. Increasing those valuable elements not only reduces resistance to repeating the wiki activity, but can also reduce negative feelings about the time and effort invested therein.

The findings suggest that the need to invest a lot of time and effort into the activity is the main reason for students' resistance to repeating it. In our research, costs are a general construct that includes time and effort for coordination, and the specific cost of the activity itself (looking for news, answering questions related to the news, and providing new answers if they thought the ones given were incorrect). The findings confirm those of previous research, that costs are important drivers of the discontinuance of e-learning activities (Lee 2010; Roca & Gagné, 2008; Elgort et al., 2008; Ebner, Kickmeier-Rust, & Holzinger, 2008). Coordination cost is one aspect highlighted by students when the activity requires group work. Although there is much evidence for group-level advantages from collaboration, working in groups in wiki activities does not always outperform individual working (Elgort et al., 2008; Le, Janssen & Wubbels, 2018; Nokes-Malach, Richey & Gadgil 2015;:). Wikis do not always provide an effective solution for group coordination, and some studies have found that face-to-face discussions are required to negotiate issues and reach consensus (Alwart, 2011), thereby increasing the costs of the activity. Although the cost of answering questions and replicating the answers if they thought the ones given were incorrect may be considered relatively low, it is true that coordination among group members, and the time invested in finding a real case related to the course, may imply a higher cost.

According to our results, technical aspects of using a wiki have no effect on resistance to repeating the activity, although perceived ease of use helps to reduce the time and effort costs of taking an active part in the activity. These results can be explained by two facts: first, the training session offered by the teachers on use of the wiki (since most students

have never used a wiki before) allow teachers to ensure that the students have the digital skills necessary, and increase students' confidence – two aspects that are important for a successful e-learning activity (Manca & Grion, 2017; Cole 2009). Second, previous research has found similar results in the university context, as undergraduates are generally able to use unfamiliar technologies easily in their learning (Ng, 2012). However, assuming that younger generations of students are familiar with the use of new technologies, and that they are able to use them without training, may be an error, since technical problems are one of the main reasons for discontinuance of wiki activities (Ebner et al., 2008; Cole 2009; Manca & Grion 2017).

Regarding the benefits of the wiki-based learning activity, the utility value in terms of learning performance has no significant effect on reducing resistance to repeating the activity. This is contrary to our expectations, as we expected the usefulness of the activity to be one of the main inhibitors of students' negative reaction. The lack of reward, such as a contribution toward the students' grade for the activity may explain this result (Kennedy & Cuts, 2005). The real utility of the activity is that it provides examples or cases similar to those of the exam. Although the cases examined in the wiki may be similar, those in the exam are new so students may not find the activity to be useful as they have no direct reward for the time and effort invested in the activity. As previous research has found, reward is important for enhancing participation (Carr, Morrison, Cox, & Deacon, 2007; Cole, 2009; Ebner et al, 2008), and it may increase usefulness from the students' point of view as it is part of the grading . However, hedonic and social values, measured as enjoyment and peer interaction, respectively, of the wiki-based activity are inhibitors of resistance to repeating the activity. Our results confirm those of previous studies, which found interaction and enjoyment are the main factors in dropout reduction in e-learning (Lee, 2010; Lee & Choi, 2013), and are valuable aspects of a wiki (Hazari et al., 2009). Enjoyment has the greatest impact, which confirms that the hedonic aspect is important in volunteer wiki learning activities, as is also the case with other e-learning activities, such as gamification (Buil, Catalán & Martínez, 2019).

Regarding peer interaction, our results are in line with those of prior research that collaborative learning as a result of interaction leads to greater satisfaction with e-learning activities (Wheeler et al., 2008; Raman & Ryan, 2004). Thus, we contribute to the existing literature by adding to previous results the direct effect of peer interaction on a new outcome: resistance to repeating the activity (Al-Rahmi et al., 2018). As expected, greater

peer interaction reduces resistance to repeating the wiki activity. Furthermore, we propose that peer interaction has a positive influence on the level of enjoyment and utility perceived. Thus, interaction among peers makes the activity more enjoyable and more useful for learning. The findings show that peer interaction reduces resistance to repeating the activity through enjoyment, confirming the partial mediating effect of enjoyment. Although most related research has examined these two variables, little is known about their mediating effects. Our results confirm previous findings that social interaction is the basis for learning and knowledge construction (Blasco-Arcas et al., 2013; Gan et al., 2015; Gomez et al., 2010; Hazari et al., 2009).

Finally, our research proposed some moderating effects of perceived benefits on the relationship between perceived costs and resistance to repeating the activity. The results suggest that those who perceive higher enjoyment during the activity, or who perceive greater learning or a greater level of interaction, will perceive a lower effect of the time and effort invested on resistance to repeating the activity (Ha et al., 2012; Laurillard, 2007; Teo & Noyes, 2011). This means that enjoyment, learning, and peer interaction help students perceive that the activity is worthwhile, and reduce the perceived importance of the time and effort costs as the main causes of resistance to repeating the activity. This aspect may help to create a balance between the costs (time invested in learning and using the technology) and the benefits (enjoyment, usefulness, peer interaction)

These findings allow us to contribute to the educational field. First, we contribute to educational research, especially that on new technologies in education, by analysing not students' satisfaction or recommendations, but a negative outcome, as the main dependent variable: their resistance to repeating the activity. Second, we contribute by adopting a different perspective (VAM) to address this outcome. As the VAM had to be adjusted to the context of study, peer interaction was proposed as the social value or social benefit of the activity. Little research has focused on how to reduce the cost component of VAM, so our third contribution is that we provide evidence on the moderating effect that different types of benefits (functional, emotional, and social value) exert on non-monetary costs. This is especially important as these types of costs are the main driver of resistance to repeating the activity. Finally, and in line with this contribution, our findings suggest that some benefits can be analysed as drivers of others benefits. The results provide evidence

of the effect of peer interaction on the performance and emotional value of the e-learning activity.

The findings also offer some practical implications for educators who are thinking of conducting a wiki-based learning activity, but as a forum in which students have to provide their opinions about a question based on a real case study or news. According to our findings, students see this activity as costly in terms of time and effort related not only to group coordination, but also to completing the activity itself. We suggest that in any learning activity that integrates technology, teachers should offer a training session and a user's guide for the specific activity. This will allow teachers to ensure that there are no technical problems or lacking digital skills that may increase the cost of completing the activity due to technical aspects. Regarding teamwork coordination tasks, teachers should offer courses about team management. It would be useful to provide a roadmap on the roles, norms, and “protocols” to be followed by each member of the group so that conflicts can be reduced or eliminated. This would also help to alleviate some of the costs mentioned above, and the students would improve their final experience with the activity. Additionally, teachers should emphasize the benefits of the activity with regard to not only the final learning performance but also the hedonic and social value of the activity, as these benefits not only directly reduce resistance to repeating the activity, but also help to mitigate the perceived costs of the activity. Teachers should also emphasize enjoyment when they create the activity. For example, stimulating some competition between students or allowing them to take on the role of the teacher for a period could be attractive.

Our research is not without limitations. First, it does not control for the type of participation and interaction, as offering a complete, justified answer to a question is not the same as simply confirming other students' opinions. Second, the construct related to the usefulness of the activity is a learning outcome variable that shows a subjective measure of learning. However, it would be useful to understand the students' real learning performance. Third, more research about the costs of the wiki-based activity is required in order to understand how to reduce those costs. Our costs construct contains various types of costs, so a study that distinguishes the effect of each type of cost would be interesting, and may add more knowledge about the effects of these variables and how these effects can be eliminated. Finally, other variables could be included in the model that, according to some previous research, may influence the success or failure of integrating new technologies into the learning process, such as students' learning culture

(Caron & Caronia 2008), or the effect of a reward for doing the activity, as discussed above.

Statements on open data, ethics, and conflict of interest

The authors are pleased to provide the data collected for this study upon request.

All data were collected from an anonymous survey; no identifying information was collected. In addition, the subjects were told that participation was voluntary and would not affect the grade they would receive for their course. They were also informed that they could withdraw from the study at any time.

The authors would also like to state that there is no potential conflict of interest in this study.

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