

Social media-driven customer engagement and movie performance: Theory and empirical evidence

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Social media-driven customer engagement and movie performance: Theory and empirical evidence

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Abstract

Can social media-driven customer engagement help movie producers to increase movie sales? Movie producers use social media to boost customer engagement; however, our understanding of whether there is a relationship between pre-consumption customer engagement and movie sales is limited. This research explores what drives the success of movies on the opening-weekend. We examine the relationship between pre-consumption customer engagement driven by social media (i.e., personal and interactive engagement) and movie performance (i.e., opening-weekend box office revenues). Driven by the debate about the potential capacity of social media-driven customer engagement to improve movie performance and the limited understanding of the association of pre-consumption customer engagement and movie performance, this research suggests that social media-enabled customer engagement (i.e., personal and interactive engagement) has the potential to improve movie performance, and these two types of engagement can interact to make this effect stronger. We analyze these relationships drawing from the uses and gratifications theory and the social media affordances perspective that motivate customers to interact in social media. The theoretical model evaluation was tested on a unique and original dataset composed of 966 movies released in the U.K. and Spain. The

empirical analysis suggests that personal and interactive engagement are positively related to movie performance, and the positive effects of personal and interactive engagement on movie performance are mutually reinforcing. This research contributes to Information Systems (IS) research by theorizing and empirically showing how customer engagement driven by social media creates business value by improving movie performance.

Keywords: Social media, customer engagement, personal engagement, interactive engagement, movie performance, the business value of social media.

1. Introduction

For the past decade, many social media applications such as blogs, photo-sharing platforms, social gaming, and chat apps have experienced a rapid proliferation (Li et al., 2014; Castillo et al., forthcoming). The number of worldwide social media users is about *"2.95 billion in 2019 and is expected to reach 3.43 billion by 2023, which entails around a third of the Earth's entire population"* (Statista, 2019). Social media are interactive. They stimulate informal and meaningful interactions (Saldanha et al., 2020), enable conversations between customers and firms, involving customers in content generation and value creation (Goh and Arenas, 2020), and build long-term relational exchanges. Social media has changed the word-of-mouth landscape, transforming the target from one or a few friends to the entire world (Duan et al., 2008; Banerjee et al., 2017)¹. As word-of-mouth is a manifestation of customer engagement, we can define social media-driven customer engagement as the *"manifestations from customers toward a firm or a brand beyond purchase"* (Oh et al., 2017, p. 26), motivated by social media affordances. Social media foster online customer manifestations toward firm/brand through social affordances, fulfilling users' needs (Karahanna et al., 2018). Although social media-driven customer engagement is increasingly getting attention from practitioners and academics, several research opportunities exist in the IS field.

¹ Please see Cheung and Thadani (2012) for a literature analysis of digital word-of-mouth.

First, recognizing the importance of social media in driving customer engagement is crucial because social media transform online users from passive consumers of content to active users in generating and sharing content with others (Oh et al., 2016); however, studies about social media-driven customer engagement are still emergent (Dolan et al., 2016). More importantly, it is crucial to understand the role of customer engagement in entertainment such as the movie industry for the following reasons. Understand how customer engagement may help firms to forecast future sales better and to develop effective targeting strategies is strategic because the movie industry is risky, and most of the movies produced are unprofitable (Liu, 2006). In this context, customer engagement is more meaningful since "*movies are cultural goods with an experiential nature*" (Liu, 2006, p. 76), which receive great public interest. Besides, firms announce their products and services before their launch (e.g., Sony with the PlayStation or Apple with the iPhone) to attract users' curiosity and increase customers' excitement and enthusiasm, which may increase the users' word-of-mouth in social media.

Despite the above strategy's potential impact on business benefits, there is limited understanding about how important customer engagement before the product/service release is for early product success. We differentiate from the trend in most prior studies and examine prior customer engagement (i.e., customer engagement before the movie is released). In doing so, we can isolate customer engagement from the potential effect of reviews or opinions from customers who have already watched the movie. Pre-consumption customer engagement is expected to be high since it is difficult to evaluate the movie quality before watching it, and users tend to evaluate and become involved in word-of-mouth to collect information (Liu, 2006) and reduce information asymmetry. The movie industry's unique feature is that all weeks are not equally important since many managerial decisions need to be made weekly, making crucial early sales (Liu, 2006). Thus, prior customer engagement may be a golden source of content that IT and business executives may use to forecast future sales and develop effective targeting strategies. This rationale leads to asking whether customer

engagement has a positive relationship with movie performance. Consistent with prior research, movie performance in this study refers to the sales performance of the movie in the opening-weekend (i.e., "*the opening-weekend box office gross revenue*" (Oh et al., 2017, p. 29)).

Second, most of the prior studies of the business value of IT and, specifically, studies about the movie industry have been contextualized in the U.S. market (Benitez et al., 2018a; Benitez et al., 2018b). However, other markets, such as the U.K. and Spain, are increasingly getting importance in this industry. The U.K. is one of the leading movie-producing markets worldwide, whose movies generated 24.9% worldwide share of film box office revenues in 2019 and nearly 3.5 billion GBP revenues in the U.K. (Statista, 2020a). Though the Spanish movie industry can not rival that of the U.S. or the U.K. movie industry, this industry's revenues in Spain show significant growth, from 499 million Euros in 2013 to an estimate of 732 million Euros by 2023 (Statista, 2020b). It may be expected that the findings from the U.S. may not be generalized to the U.K. and Spain contexts due to individual, organizational, and country cultural differences. The U.K. characterizes by a long-term orientation and has notably lower uncertainty avoidance than the U.S., characterized by a short-term orientation (Hofstede, 1980). The differences are greater between Spain and the U.S. since they are quite different in all cultural dimensions. Specifically, Spain is characterized by greater power distance and uncertainty avoidance than the U.S. Moreover, the U.S., differently to Spain, has a high level of individualism, masculinity, and short-term orientation.

We selected the U.K. and Spain as the study's context because of the following reasons: First, these two countries excelled as movie producers and customers. Second, the U.K. and Spain are two of the world's five most influential cultures (Galloway, 2018). Third, we may expect differences in customer engagement via social media in the U.K. and Spain because of the cultural differences between these two countries (Hofstede, 1980). According to Hofstede's (1980) framework, the U.K. has lower power distance and uncertainty avoidance than Spain and a higher level of individualism and masculinity. For example, we may anticipate that users from high uncertainty avoidance and low

individualist cultures (e.g., Spain) users may exhibit higher social media-driven customer engagement than users from low uncertainty avoidance and high individualist cultures (e.g., Spain) (Mooij and Hofstede, 2002). Unlike British, Spanish users may engage in social media to reduce information asymmetry to avoid uncertainty and capture movie group information to consider enjoying a movie collectively.

Therefore, it is relevant to understand how pre-consumption customer engagement via social media is associated with movie performance in these two different and influential cultures. Moreover, most of the prior studies' findings analyzing the role of customer engagement via social media focus on one social media platform (e.g., Gopinath et al., 2013). Motivated by the growing role of social media-driven customer engagement in sales growth and the limited academic knowledge about the role of social media-enabled customer engagement in driving performance, this research aims to explore the following research question: Can customer engagement via social media predict future movie performance in the context of Spain and the U.K.?

Third, prior studies have distinguished between personal and interactive engagement (Oh et al., 2017) without providing theoretical rationales or empirical evidence about the potential relationships between them. Social media, which is interactive by nature, have different features that enable users to engage in different ways. For example, when a Facebook user sees content that he/she likes, he may do nothing, he may follow the Facebook page that has published the content, he may like the content and the Facebook page, or he may also comment about that content. These behavioral manifestations represent different types of customer engagement. Deepening in understanding the different ways of customer engagement and distinguishing them to understand whether (and how) they may affect the business value creation and how they are related to each other is paramount. In response, we distinguish between personal engagement (i.e., *"search of stimulation and inspiration through the interaction with the content"* (Oh et al., 2017, p. 28)) and interactive engagement (i.e., *"socializing and participating with the community"* (Oh et al., 2017, p. 28)) to see whether these two

types of social media-enabled customer engagement complement each other, and are associated with future movie performance. Thus, we aim to also respond to the following research question: How does personal engagement interact with interactive engagement to impact future movie performance? This study examines the potential role of social media-enabled customer engagement in predicting movie performance (i.e., the opening-weekend box office gross revenue). This manuscript theorizes that personal engagement and interactive engagement are positively associated with movie performance and that the positive effect of personal and interactive engagement on performance are mutually reinforcing². We check our proposed model "*using partial least squares (PLS)-path modeling (PLS-PM) with an extensive secondary dataset*" (Benitez et al., 2018a, p. 131) on a sample of 966 movies in Spain and the U.K. Our theorization and findings provide several contributions to IS research. First, this study focuses on explaining the effect of customer engagement before movies are released on movie performance since the time of release is the largest earning period for most movies. Second, this study considers multiple social media (three of the most used social media sites), focusing on the U.K. and Spain's unexplored markets. Third, this research examines the interaction between personal engagement and interactive engagement and its relationship with movie performance.

2. Theoretical background and the proposed research model

2.1. Theoretical background: Uses and gratifications theory and social media affordances

This study's central tenet is that social media allows different forms of opinion expressions through features such as posting, liking, or friending. In social media, "*opinion expressions happen with simple clicks*" (Pang et al., 2016, p. 899). This notion is called "click speech" and indicates the popularity of the content (e.g., a post about the movie or a movie trailer) (Pang et al., 2016). We draw

² This is the core central proposition this study argues and tests empirically. Our thesis implies the assumption that personal engagement and interactive engagement are the two key exogenous variables in explaining movie performance. As all models and estimations, our thesis has assumptions. We recognize that many other variables can explain and predict movie performance. We thank an anonymous reviewer for his/her feedback and suggestions on this issue.

from the uses and gratifications theory and the social media affordances perspective to explain the users' motivations to engage in social media. We leverage the uses and gratifications theory to explain why and how users leverage social media to satisfy specific needs such as knowledge enhancement or entertainment (Stafford et al., 2004; Dolan et al., 2016). Besides, we use the social media affordances perspective, specifically, the *"needs-affordances-features perspective on social media"* (Karahanna et al., 2018, p. 738), to explain users' motivation to use social media based on their psychological needs. These psychological needs may be fulfilled due to the *"affordances provided by social media applications"* (Karahanna et al., 2018, p. 752), which in turn are enabled by the features of these social media platforms. Drawing from this theoretical background, we explain why users engage in social media (both personal and interactive engagement) and how these engagements can work together to be related to movie performance. Customers manifest personal and interactive social media-driven engagement because they obtain gratifications and affordances.

The uses and gratifications theory explains the users' motivations to use a media channel (Stafford et al., 2004). This theory assumes that users actively use a media channel to fulfill specific needs (e.g., Stafford et al., 2004). This theory is an effective approach in this study because social media are mass media, and customers may choose and easily interact with the content and other users (Gu et al., 2016). Individuals actively look for and use social media to fulfill specific gratifications, such as information gathering, knowledge improvement, entertainment and relaxation, professional enhancement, social interaction, reward, or meeting new people (Stafford et al., 2004; Dolan et al., 2016). The different motivations for social media usage are tied to different customer engagement ways (Stafford et al., 2004), motivating personal and interactive engagement.

Affordances are defined as action possibilities afforded by technology to users. Affordances refer to what a user can potentially do using the technology to achieve an immediate outcome (Karahanna et al., 2018). Social media sites possess different features and provide different affordances that

satisfy individuals' psychological needs; then, these affordances work as facilitators that motivate individuals to use social media to meet their needs (Leidner et al., 2018).

Karahanna et al. (2018) present a comprehensive review of the social media affordances such as "*self-presentation, content sharing, interactivity, presence signaling, relationship formation, group management, browsing others' content, meta-voicing, communication, collaboration, competition, and sourcing*" (Karahanna et al., 2018, p. 744). These affordances are the facilitators that motivate users to engage in social media. Users motivated by different affordances may engage differently in social media. On the one hand, the social affordances of relationship formation (i.e., users can build relationships among them), browsing others' content (i.e., users can be alerted to pay attention to others' content), and meta voicing (i.e., users can react and see how others react) are facilitated by social media features such as following other users on Twitter, watching videos on YouTube and liking others' posts on Facebook, respectively (Karahanna et al., 2018). This represents the personal engagement enabled by social media. These affordances motivate personal customer engagement.

On the other hand, the social affordances of self-presentation (i.e., users can provide information about themselves), content sharing (i.e., users share content about others), meta-voicing, and communication (i.e., "*users can communicate with each other*" (Karahanna et al., 2018, p. 744) are facilitated by social media features such as writing personal opinions on Twitter, sharing content with other on Facebook or Twitter, retweeting on Twitter, and chatting on Facebook with other users, respectively (Karahanna et al., 2018), thus enabling users to engage interactively. These affordances motivate interactive customer engagement.

Each social media site has features that enable it to provide different affordances. Facebook and Twitter may provide mainly the following affordances: self-presentation (e.g., sharing own photos on Facebook or posting tweets), content sharing (e.g., "*sharing links of content*" (Karahanna et al., 2018, p. 744) on Facebook or retweet), relationship formation (e.g., friending on Facebook or following on Twitter), browsing others' content (i.e., browsing other people's albums on Facebook or reading

tweets), meta-voicing (e.g., commenting on Facebook or liking on Facebook and Twitter), and communication (e.g., chatting on Facebook or making polls on Twitter). YouTube may provide self-presentation and content sharing (e.g., uploading videos), relationship formation, and meta-voicing (e.g., subscribing) affordances (Karahanna et al., 2018).

Therefore, many affordances are represented by activities of different nature (e.g., commenting on videos or liking on Facebook) that may have different implications. For example, commenting is more time-consuming and could be more cognitively challenging than other activities such as liking (Banerjee and Chua, 2019). While liking is used to express a positive attitude, comments may be used to express opinions qualitatively (Banerjee and Chua, 2019). These activities and their affordances may result in different types of engagement (i.e., personal and interactive engagement), which may be associated with movie performance differently.

2.2. Conceptualization of key constructs

Customer engagement refers to the *"manifestations from customer toward a firm or a brand beyond purchase, resulting from motivational drivers"* (Oh et al., 2017, p. 26). Online customer engagement can be conceptualized as collecting customer motivational experiences through online platforms (Braojos et al., 2019). Social media-driven customer engagement refers to the users' manifestations (beyond purchase) toward a firm or a brand (Oh et al., 2017) in a social media environment motivated by social media affordances and gratifications. Social media applications possess certain features that provide affordances and gratifications that motivate users to fulfill psychological needs and gratifications.

We distinguish between personal and interactive engagement (Oh et al., 2017). Personal engagement, which is intrinsically motivated, involves searching for *"search of stimulation and inspiration through the interaction with the content"* (Oh et al., 2017, p. 28). Personal engagement associates with users' self-esteem and produces intrinsic enjoyment to them. With personal engagement, users enjoy the site to make their interactions with other people easier and acquire useful

information and valuable input from other users and react and see the others' reaction (e.g., relationship formation and meta voicing affordances) (Karahanna et al., 2018).

Interactive engagement, which is intrinsically and extrinsically motivated, involve "*socializing and participating with the community*" (Oh et al., 2017, p. 28) through the engagement with the content and the users, which also produce utilitarian worth, and intrinsic enjoyment to them (e.g., content sharing, and communication affordances). With interactive engagement, users get valuable input from the users' community by participating and socializing on the site. Interactive engagement is influenced by social relevance rather than the user's individual qualities, suggesting a larger engagement experience (Oh et al., 2017). In general, it is believed that word-of-mouth affects users' movie selection, being attributable to word-of-mouth the success of several movies such as Star Wars: Episode 1: The Phantom Menace (Liu, 2006). Specifically, we focus on the prior customer personal and interactive engagement. Prior personal and interactive customer engagement refer to the engagement immediately preceding the movie release because "*the word-of-mouth activities are the most active during a movie's prerelease and opening week, and word-of-mouth information offers explanatory power for movie performance*" (Liu, 2006, p. 81). Due to the nature of the metrics used in this study and being consistent with previous studies (e.g., Oh et al., 2017), some of them are accumulated over time (e.g., Facebook likes, Twitter followers, YouTube views, YouTube likes, and YouTube comments) from the creation of the profile or the video uploading, and the rest of them (e.g., Facebook talks and Twitter tweets) refer to the period of seven days before the movie release day. Movie performance refers to the sales performance of the movie in the opening-weekend, that is, "*the opening-weekend box office gross revenue*" (Oh et al., 2017, p. 29) (i.e., Friday, Saturday, and Sunday of the release week). Understanding the effect of customer engagement on movie performance is paramount because most movies' greatest profitable time is at the time of release, especially the opening-weekend (Gopinath et al., 2013; Oh et al., 2017).

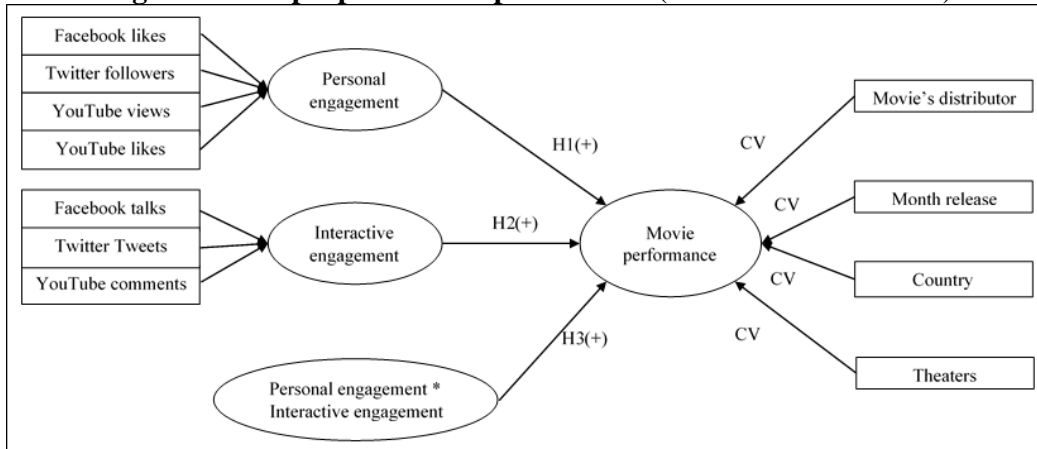
2.3. Hypotheses development and the proposed research model

The proposed research model suggests that personal customer engagement and interactive customer engagement driven by social media positively associate with movie performance. Customers may engage in social media motivated by social media platforms' affordances, which help fulfill customers' psychological needs and gratifications (Li et al., 2017; Karahanna et al., 2018). These social media affordances are relational, which means that the same social media platform or even the same features of a social media platform can simultaneously enable different affordances (Vaast et al., 2017). Thus, these affordances may be complementary. In our study's context, this relational nature indicates that customer engagements motivated by social media affordances can be mutually reinforced in their association with movie performance. Thus, we argue that the positive effect of personal engagement on movie performance can be amplified if there is also interactive engagement, making this effect stronger. Figure 1 depicts the proposed conceptual model.

2.3.1. Personal engagement and movie performance

Social media-enabled personal engagement can be associated with movie performance. Social media affordances (i.e., relationship formation, browsing others' content, and meta-voicing) enabled by platforms like Facebook, Twitter, or YouTube facilitate personal engagement. Social media-driven personal engagement facilitates positive movie word-of-mouth, and it is related to the awareness effect because higher word-of-mouth volume will have a positive relationship with the probability a customer receives movie information (Liu, 2006; Oh et al., 2016). Most social media word-of-mouth comes from other moviegoers that can reflect popularity, and it is perceived as a reliable source of information (Liu, 2006). Also, a lack of movie information and experience before releasing makes the customers more likely to accept online word-of-mouth from others in social media (Liang et al., 2010; Brodie et al., 2013), thus to be associated with movie performance.

Figure 1: The proposed conceptual model (CV = Control variable)



Moreover, social media sites such as Facebook, Twitter, and YouTube enable engagement with the content (i.e., personal engagement) through reading movie news, liking pages and content, following and subscribing to movie channels, and watching movie trailers. These actions serve as "*stimulation and inspiration*" (Oh et al., 2017, p. 28) through content consumption, which can be inspirational for users. Users can associate themselves with the movie, impacting their "*personal self-esteem and self-worth*" (Oh et al., 2017, p. 29). Users can also experiment with intrinsic enjoyment by watching movie trailers and utilitarian value by receiving future content sent by the movie (Oh et al., 2017). For example, Facebook users pay up to five times more for products they like on Facebook than users who do not like that product on Facebook (Hollis, 2011), suggesting that Facebook likes influence users' purchase decisions (Bhattacharyya and Bose, 2020).

Social media can be considered a digital word-of-mouth platform to accelerate the exchange of information among users and reduce information asymmetries between buyers and sellers, making the selling process more efficient (Guesalaga, 2016; Castillo et al., forthcoming). Then, it is more likely that users know and select the movie better, improving movie performance. An active and official movie social media profile is perceived as a firm's platform to build a relationship with customers; thus, the customer can be more willing to watch the movie. Therefore, we hypothesize that:

Hypothesis 1 (H1): There is a positive association between personal engagement and movie performance.

2.3.2. Interactive engagement and movie performance

Days before the release, users share excitement, anticipation, and opinions of upcoming movies by "*interacting with movie profiles and other users on social media channels such as Facebook, Twitter, and YouTube*" (Oh et al., 2017, p. 27). These social media sites enable the engagement with the content and users (i.e., interactive engagement) through participation, discussion, and content sharing with others by sharing movie trailers and content, writing comments about movies, and receiving feedback from others (Oh et al., 2017; Braojos et al., 2019). More movie talks are associated with higher sales (Rui et al., 2013). Interactive engagement improves knowledge and familiarity about the movie and can enhance the intention to watch it (i.e., purchase intention) (Oh et al., 2017). Users trust and value the opinions of peers when discussing brand endorsed by them (Kozinets et al., 2010; Oh et al., 2017), knowing that a "*peer-to-peer environment provides more candid referrals and warnings*" (Giamanco and Gregorie, 2012, p. 91), thus improving the probability to watch the movie.

Moreover, firms using social media's interactive features create a brand image, better customer experience and encourage purchasing behaviors. For example, the Facebook features of sharing photos and opinions, sharing links of content, commenting and tagging photos, and chatting enable self-presentation, content sharing, meta-voicing, and communication affordances (Karahanna et al., 2018), allowing customers to engage interactively. Twitter's features of posting tweets and profile pages, posting tweets and retweets, and Twitter polls enable self-presentation, content sharing and meta-voicing, and communication affordances (Karahanna et al., 2018), motivating interactive engagement. Finally, YouTube's features of uploading videos enable self-presence and content sharing affordances, and commenting enables meta-voicing affordances (Karahanna et al., 2018), facilitating interactive engagement. These social media-driven interactive engagement through social affordances facilitate an interactive relationship between customers and firms, building long-term

relational exchanges. Engaged customers become movie advocates in interactions with other users on social media sites, turning themselves into fans. These fans tend to be more loyal and committed to the movie and thus are more willing to watching the movie. We thus argue and suggest the following hypothesis:

Hypothesis 2 (H2): There is a positive association between interactive engagement and movie performance.

2.3.3. The interaction between personal and interactive engagement and movie performance

Social media-driven customer engagement can have a positive relationship with movie performance. Personal engagement and interactive engagement have been identified as two key customer engagement driven by social media. We focus on the complementary effects of personal and interactive engagement and hypothesize that social media-driven interactive engagement can amplify the association between social media-driven personal engagement and movie performance. Interactive engagement is a golden (higher-order) type of engagement, which engages in going the extra mile, being more explicit and active on social media, and reinforcing personal engagement, which is a silver (lower-order) type of engagement. Social media support personal and interactive engagement. A particular platform can offer some affordances for some users and other affordances for other users. A particular platform can also offer different affordances for the same users experiencing different gratifications and needs (Vaast et al., 2017). Then, these affordances (i.e., those that facilitate personal engagement and those that facilitate interactive engagement) can be complementary (e.g., users can use some social media's features for playing or socializing) searching information) in their association with movie performance. For example, a user can like a particular movie's Facebook page; then, this user is engaged personally. However, this user can also like a comment that has been generated previously from another user. In this context, this user can conduct personal engagement (by liking the comment) because previously, another user has commented on Facebook, a manifestation of

interactive engagement. Then, interactive engagement and personal engagement positively interact with each other, reinforcing its association with movie performance.

Personal engagement and interactive engagement can involve higher intrinsic enjoyment to users from reinforcement of self-esteem and the utilitarian worth getting useful information and valuable input (Oh et al., 2017). This greater intrinsic enjoyment makes it more likely that users choose the movie, thus improving movie performance. Finally, when users conduct a variety of actions such as read movie news, liking content, watching movie trailer (i.e., personal engagement), discuss and share content, or write comments about movies (i.e., interactive engagement), is engaged by both individual qualities and social relevance (Oh et al., 2017); thus these two types customer engagement should operate as complement and generate synergies, increasing the level of engagement and likelihood of users know the movie and build enduring relational exchanges, increasing the loyalty, commitment and the probability of watching the movie. When users develop personal and interactive engagement, they are more likely to watch the movie than when they develop one. This leads us to hypothesize the following:

Hypothesis (H3): There is a positive association between the interaction of personal and interactive engagement and movie performance.

3. Research context, design, and methodology

3.1. Sample and data

The proposed research model was empirically tested with an extensive sample of 966 movies released in the U.K. and Spanish market between December 2015 and November 2016. Most of the prior research analyzing the effectiveness of customer engagement on economic performance in the movie industry focused on the U.S. market (e.g., Duan et al., 2008; Gopinath et al., 2013). Differently, we focus on the U.K. and Spanish markets, which are excelling as movie producers and audience, mainly due to the massive boost from the U.K. government (e.g., reducing taxes) (Anand, 2017). Movies are a crucial cultural product in Spain and the U.K. According to ComScore. Spanish cinema admissions

in 2018 were more than 97 million, reaching a total box office of more than 600 million U.S. Dollars (Hopewell, 2019). Meanwhile, according to the U.K. Cinema Association, British cinema admissions reached 177 million in 2018, yielding a total box office of more than 1.277 billion GBP (CinemaUK.org.uk, 2019).

To reach the final sample, we used a manual data screening and collection process as follows: First, we collected the name of all the movies which were planned to be released from different databases, yielding a list of 2,240 movies. Second, once we have collected the movie performance and social media data, we removed movies without movie performance or social media data. Most of these dropped movies had already been released, but they were re-released for a certain movie festival or on video-on-demand platforms such as Netflix or HBO. After dropping these movies, the sample was composed of 1,620 movies. Third, we removed 637 movies because though we had movie performance and social media data; the movie was re-released (e.g., for a movie festival or some special occasion such as an award-winning); therefore, the movie performance referred to a past period (i.e., a mismatch between movie performance and social media data), keeping a total of 983 movies. Finally, we also dropped the movies whose movie performance referred to a different country (i.e., we had the data for a different country but not for the country studied in this paper), yielding a final sample of 966 movies.

To measure the different variables considered in our study, we gathered and leveraged secondary data from eleven sources (i.e., IMDb (<https://www.imdb.com/>), Film Affinity (<https://www.filmaffinity.com/es/main.html>), Sensacine (<http://www.sensacine.com/>), Estreno de Cine (<https://www.estrenosdecine.net/>), Launching Films (<https://www.launchingfilms.com/>), Movie Insider (<https://www.movieinsider.com/>), Facebook site (<https://www.facebook.com/>), Twitter site (<https://twitter.com/>), YouTube site (<https://www.youtube.com/>), Tweetreach (<https://tweetreach.com/>) and Box Office Mojo (<https://www.boxofficemojo.com/>)) for one year between December 2015 and November 2016. We first collected the name of the movies which were

scheduled to be released from different databases. We used IMDb, Film Affinity, Sensacine, and Estreno de cine to collect the movies released in Spain, and we used IMDb, Launching Films, and Movie Insider to obtain the movies released in the U.K. Then, we used each movie's title to collect information about these movies from the rest of the databases. Specifically, we ensured that the social media sites were official by checking that the Facebook and Twitter accounts had a verified badge, which confirmed a real movie's site, and checked the firm that managed in the Facebook page transparency section. To confirm the movie's official trailer, we checked who had uploaded the video and whether this user (e.g., movie's producer or distributor) had the verified badge. We are confident with the manual, deliberate, and careful process managed and discussed by the authors.

3.2. Social media platforms measures: Facebook, Twitter, and YouTube

Facebook is the biggest social media worldwide, with more than 2.41 billion global monthly active users in the second quarter of 2019, and generated 55.84 billion U.S. Dollars in revenues in 2018 (Statista, 2019). Facebook users can create their own Facebook page, add other users, share updates and photos, send private messages, and participate in groups and events. They also can share, comment, and like updates and photos from another Facebook page. Firms can also create their Facebook page, which may be used to touch customers. That is why marketers go the extra mile to generate Facebook fans (Statista, 2019).

Twitter is also one of the leading social media worldwide, which had 330 million monthly active users in the first quarter of 2018, and generated 3.04 billion U.S. Dollars in revenues in 2018 (Statista, 2019). Twitter users can send short messages called tweets (historically, the messages were limited to 140 characters, recently the limitation of characters has been restricted to 280), follow other Twitter profiles, send private messages, share an existing message called retweet, like an existing message and view other messages. Twitter usage is increasingly notable during events such as sports or television events (Statista, 2019). Users can index keywords or topics on Twitter with hashtags, facilitating users to follow the topic they are interested in. Firms make an effort to recruit followers to

touch them. For example, the most popular brands on Twitter in 2019 were PlayStation with 16,9 million followers, Xbox with 13,5 million, and Chanel with more than 13,2 million followers (Statista, 2019). YouTube is *"a video-sharing platform which has a wide variety of user-generated and corporate media content."* *"According to YouTube CEO Susan Wojcicki 1 billion hours of content are consumed on this platform every day"* (Statista, 2019). The most popular types of YouTube content include music videos, beauty and fashion tips, video blogs, and instructional videos. Firms, musicians, or movie distributors use YouTube to advertise (Statista, 2019).

We chose Facebook, Twitter, and YouTube for the following reasons. First, these social media platforms are some of the most used social media in Spain and the U.K. Spain has 79% users aged 16 to 64 for Facebook, 53% for Twitter, and 89% for YouTube in 2017 (Global Web Index, 2020), and the U.K. has 32 million users in Facebook, 20 million Twitter users, and 19.1 million YouTube users (Social Media Marketing, 2017). The users' participation in these platforms is key because users are more engaged in platforms with other users. Therefore, firms (e.g., movie distributors) are more likely to join platforms where users have a higher presence (Kathuria et al., 2020). Second, Facebook, Twitter, and YouTube are the three top social media in cultural industries such as the movie industry in Spain and the U.K. Third, these social media platforms enable to upload greater media richness (e.g., pictures, animations, videos) to offer visual captivation (Banerjee and Chua, 2019). Therefore, by selecting Facebook, Twitter, and YouTube, we considered a broad range of information presentation formats, which has been found to have a significant impact on consumer perceptions and purchase intention (Xu et al., 2015).

3.2.1. Personal engagement

We draw from Oh et al.'s (2017) work to measure personal engagement. The personal engagement was conceptualized as a composite first-order construct shaped by Facebook likes, Twitter followers, YouTube views, and YouTube likes. We collected the data the day before the release date. Facebook likes refer to the movie's number of Facebook likes. Twitter followers were evaluated through the

"number of followers on Twitter for each movie profile" (Oh et al., 2017, p. 31). YouTube views were specified as the YouTube "count of views for a particular video of each movie profile" (Oh et al., 2017, p. 30) and YouTube likes as the YouTube "count of likes for a particular video of each movie profile" (Oh et al., 2017, p. 30). These variables are metrics accumulated over time from the creation of the social media profile and the video uploading.

3.2.2. Interactive engagement

We also draw from Oh et al. (2017) to measure interactive engagement. The interactive engagement was measured as a composite first-order construct determined by Facebook talks, Twitter tweets, and YouTube comments. We also collected the data the day before the release date. Facebook talks refer to the "number of unique users who have created what could be called a 'story' about the movie profile" (Oh et al., 2017, p. 31) (i.e., users who made at least one of the following actions: like a page, post on the page wall, like a post, comment on a post, share a post, or write a recommendation). Twitter tweets were specified as the "count of public tweets sent by other Twitter profiles about the movie profile" (Oh et al., 2017, p. 31). It includes the number of mentions to the Twitter profile and the number of movie hashtags. YouTube comments were evaluated as the YouTube "count of comments from YouTube viewers for a particular video of each movie profile" (Oh et al., 2017, p. 30). Due to the metrics nature, Facebook talks and Twitter tweets refer to seven days, whereas YouTube comments are a metric accumulated over time from the YouTube trailer's upload.

3.2.3. Movie performance

Movie performance, this work's endogenous variable, is a single indicator construct measured through the "opening-weekend box-office gross revenue" (Oh et al., 2017, p. 29) (i.e., the Friday, Saturday, and Sunday of the release week). This construct was measured with information collected from boxOfficeMojo.com. Unlike most of the prior research that select the opening day (e.g., Gopinath et al., 2013), we selected the opening-weekend because Saturday and Sunday usually are non-working days, which is rational to think people spend more leisure time these days than only on Friday.

Spanish and British users often leverage the entire weekend to go to the cinema. Moreover, we consider the time of release especially important because a unique feature of the movie industry is that all weeks are not considered equally important. After all, many managerial decisions need to be made weekly (Liu, 2006). The highest-earning time for most movies is at the time of release, specifically the opening-weekend (Oh et al., 2017).

3.2.4. Control variables

We controlled for movie's distributor, the month of release, country, and theaters with information collected from boxOfficeMojo.com. We control movie distributors because it is rational to think that different movie distributors have different strategies to distribute a movie, affecting movie performance³. Also, movie performance can depend on the month of release because, for example, some months include holidays and will attract more users, and then a higher movie performance. We also consider the country where the movie was released because of the inherent cultural differences between the U.K. and Spanish users. We also control the number of theaters because of the greater the number of theaters, the greater the movie's sales. These different control variables were measured as follows. Movie distributor was measured as a composite construct shaped by indicators corresponding to each distributor using Sony as the group reference to provide equidistant measures (Benitez et al., 2020a). Following the same process, month release was operationalized as a composite first-order construct shaped by each month as indicators using April as the reference group (Benitez et al., 2020a). We specified country as a dummy variable (0: Spain, 1: U.K.). Theaters were measured as the natural logarithm of the number of theaters in which the movie was released.

³ There may also be a difference between highly versus lowly anticipated movies. The anticipation strategy may affect pre-consumption social-media customer engagement and movie performance. Movie distributor could also be a proxy to control for the potential effect of this anticipation strategy that is usually formulated by the movie distributor. We thank an anonymous reviewer for this useful comment.

4. Results of the empirical analysis

"The proposed research model was tested empirically by using PLS-PM" (Benitez et al., 2020a, p. 137). We used the statistical software package Advanced Analysis for Composite (ADANCO) 2 Professional (<https://www.composite-modeling.com/>) (Henseler and Dijkstra, 2015). ADANCO is a leading-edge software for variance-based structural equation modeling (SEM), which models composite constructs, among others, and it is mainly used for causal and predictive modeling (Rueda et al., 2017). This decision was statistically rational for the following reasons. PLS-PM is a full-fledged estimator to test empirical research, which is optimal to deal with composite models as our conceptual model (Benitez et al., 2020a). Moreover, PLS-PM is one of the most well-known estimation methods in IS research (Benitez et al., 2020a; Benitez et al., 2020b; Cheng et al., forthcoming), which does not require that data has a multivariate normal distribution (Castillo et al., forthcoming).

Before data collection, we performed a statistical power analysis to estimate the minimum sample size to have sufficient accuracy and statistical power to detect the effects of interest in the research model (Benitez et al., 2020a). We assumed a medium effect size ($f^2 = 0.150$), a power level to achieve 0.800, and an alpha level of 0.05. The highest number of predictors received by an endogenous variable in the research model was seven (the number of structural links received by movie performance in the research model) (Benitez et al., 2018a). Based on Cohen's power tables, the minimum required sample for the proposed model was 102. Our sample size was 966, well above the required sample size, suggesting that our sample size had sufficient statistical power to test the research model's hypothesized relationships.

4.1. Measurement model evaluation

In the literature, there exist two types of concepts: (1) Concepts assumed to cause observable indicators and their relationships and are operationalized through a measurement model, which can be a reflective measurement model or causal-formative measurement model, and (2) concepts that are a

group of combined ingredients which shapes and builds the theoretical artifact. These artifacts are suggested to be operationalized through a composite model (Benitez et al., 2020a). Personal engagement, interactive engagement, and movie performance were conceptualized, operationalized, and measured as composite first-order constructs; thus, the measurement and the structural models can be estimated and evaluated simultaneously (Benitez et al., 2020a). To evaluate the measurement model, we conducted a confirmatory composite analysis and assessed multicollinearity, and weights and loadings, and their level of significance of all constructs included in the research model.

First, we conducted a confirmatory composite analysis to test the goodness of the saturated model's overall fit. The saturated model refers to *"a model in which all constructs are allowed to be freely correlated, whereas the concept's operationalization is exactly as specified by the analyst"* (Benitez et al., 2020a, p. 8). This analysis *"checks the adequacy of the composite models by testing the discrepancies between the empirical correlation matrix and model-implied correlation matrix of the saturated model"* (Benitez et al., 2018a, p. 137). Various non-exclusive assessment procedures of model fit can be considered, i.e., approximate fit measures such as the SRMR and bootstrap-based exact fit measures such as the 95% (or the 99%) quantile of the unweighted least squares (d_{ULS}) and geodesic discrepancy (d_G) between the empirical and the model-implied correlation matrix (Benitez et al., 2018a). The confirmatory composite analysis also enables the detection of potential misspecification (Benitez et al., 2020a). Table 1 shows the results of this analysis. SRMR value is 0.076, which is lower than the recommended threshold of 0.080, and *"all discrepancies are below the 95%-quantile of the bootstrap discrepancies; thus the saturated model should be not rejected based on an alpha level of 0.05, which suggests a very good measurement model fit"* (Benitez et al., 2018a, p. 138; Benitez et al., 2020a). These results suggested empirical support for the structure of composites of the measurement model.

Table 1: Results of the confirmatory composite analysis

Discrepancy	First-order constructs			Control variables		
	Value	HI ₉₅	Conclusion	Value	HI ₉₅	Conclusion
SRMR	0.076	0.094	Supported	0.020	0.022	Supported
d _{ULS}	0.208	0.318	Supported	0.345	0.407	Supported
d _G	0.081	0.159	Supported	0.072	0.082	Supported

We estimated the variance inflation factors (VIFs) values to evaluate the composite indicators' multicollinearity. VIF values ranged from 1.046 to 4.359, below 10 (Benitez et al., 2018a; Lin et al., 2020), suggesting that multicollinearity is not a problem in our data. To check the indicator weights and loadings and their significance level, we conducted a bootstrap analysis with 4,999 subsamples. Weights and loadings measure the relative and absolute contribution of an indicator to its construct, respectively (Benitez et al., 2017; Benitez et al., 2018a). All indicator loadings were significant at 0.01 level, and all indicator weights were significant except one indicator for interactive engagement. As this indicator loading was significant was retained to preserve the concept recipe (Benitez et al., 2017). All constructs included in this study exhibited good measurement properties. Table 2 shows the result of the measurement model evaluation. After that, we proceeded with the test of hypotheses and the "evaluation of the structural model" (Braojos et al., 2020, p. 8).

4.2. Structural model evaluation

To test the hypotheses and evaluate the structural model, we examined the "beta coefficients, the significance of the proposed relationships executing a 4,999 subsamples bootstrap analysis" (Benitez et al., 2018a, p. 138), the R² and adjusted R² values, the overall fit of the estimated model, and the effect size (f²) for each relationship (Benitez et al., 2020a). In doing so, we assessed two models: (1) the baseline model, which includes the direct effect from personal engagement and interactive engagement to movie performance and the control variables to test H1 and H2, and (2) model 1, which adds the interaction term to the baseline model to test the potential complementary role of personal engagement and interactive engagement on movie performance (H3). We found support for all the hypothesized relationships. The empirical analysis suggests that both personal engagement

(H1) ($\beta = 0.288$, $p_{\text{one-tailed}} < 0.050$) and interactive engagement (H2) ($\beta = 0.303$, $p_{\text{one-tailed}} < 0.001$) has an association with movie performance. Similarly, the interaction term between personal engagement and interactive engagement also has an association with movie performance (H3) ($\beta = 0.267$, $p_{\text{one-tailed}} < 0.050$).

Table 2: Measurement model evaluation

Construct/indicator	Mean	S.D.	VIF	Weight	Loading
Personal engagement					
Facebook likes	371,670	1,607,155	1.433	0.240***	0.407***
Twitter followers	38,132.930	352,489.800	1.427	0.116 [†]	0.338***
YouTube views	1,466,986	4,410,196	4.359	0.494***	0.930***
YouTube likes	8,384.590	36,351.440	4.299	0.446***	0.906***
Interactive engagement					
Facebook talks	25,184	79,890.290	1.046	0.341**	0.525***
Twitter tweets	959.430	1,401.350	1.289	0.832***	0.939***
YouTube comments	1,078.410	8,773.400	1.248	0.081	0.489**
Movie performance	736,087.400	2,787,723			
Movie distributor	0.032	0.177			
Month release	0.081	0.273			
Country	0.569	0.495			
Theaters	3.688	1.824			

Note: “[†] $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$ [based on $t(4998)$, one-tailed test]” (Benitez et al., 2018a, p. 140).

Regarding control variables, we found the following results. Movie performance was associated with the movie's distributor ($\beta = 0.247$, $p_{\text{one-tailed}} < 0.001$), indicating that the movie's performance depends significantly on the movie distributor. Also, it depends on the country ($\beta = 0.102$, $p_{\text{one-tailed}} < 0.001$) being the association higher in the U.K. than in Spain. Moreover, movie performance depends on the number of theaters in which the movie releases. However, we did not find any association between the monthly release and movie performance, showing that Spanish and British customers were not sensitive to the release's month. This may be due to the movie's availability throughout the year, independently of the month.

The R^2 was 0.574, and the adjusted R^2 was 0.577. Also, we evaluated the goodness of model fit for the structural model by evaluating the discrepancy between the empirical correlation matrix and the model-implied correlation matrix of the estimated model (Benitez et al., 2018b). The SRMR value of the proposed model was 0.036 (lower than 0.080), and "all discrepancies were below the 95%-

quantile of the bootstrap discrepancies" (Benitez et al., 2018a, p. 138). Thus, the proposed model presents a very good model fit, and it *"should not be rejected based on the alpha level of 0.05"* (Braojos et al., 2020, p. 8). The f^2 values of the hypothesized relationships ranged from 0.095 to 0.157, indicating weak-medium effect sizes between the exogenous and endogenous variables in the proposed model⁴.

4.3. Test of robustness

"The robustness of the proposed model was tested by estimating" (Benitez et al., 2018a, p. 138) two alternatives models. In the first alternative model, we assumed that personal engagement enables interactive engagement, enabling movie performance. In this alternative model, we included all the direct effects on the endogenous variable. The results suggest that personal engagement facilitates interactive engagement ($\beta = 0.663$, $p_{\text{one-tailed}} < 0.001$), which in turn predicts movie performance ($\beta = 0.243$, $p_{\text{one-tailed}} < 0.050$). Moreover, we checked for the mediator role of interactive engagement in the relationship between personal engagement and movie performance. We found that the indirect effect of personal engagement on movie performance was marginally significant ($\beta = 0.161$, $p_{\text{one-tailed}} < 0.10$), suggesting that interactive engagement plays a mediator role in the relationship between personal engagement and movie performance. However, this alternative model's overall fit is worse than our proposed model's overall fit because the alternative model fitted only with a probability of 1% while our proposed model fitted with a probability of 5%, suggesting that this alternative model is not better than our proposed model.

Table 3: Structural model assessment

Beta coefficient	Baseline model	Model 1
Personal engagement → Movie performance (H1)	0.288* (1.969) [-0.059, 0.507]	0.258** (2.431) [-0.022, 0.386]
Interactive engagement → Movie performance (H2)	0.303*** (2.934) [0.094, 0.506]	0.309*** (3.021) [0.097, 0.523]

⁴ The correlations matrix and other details of the measurement and the empirical analysis have been omitted to fulfill the page-limit. All this information is available upon request from the authors.

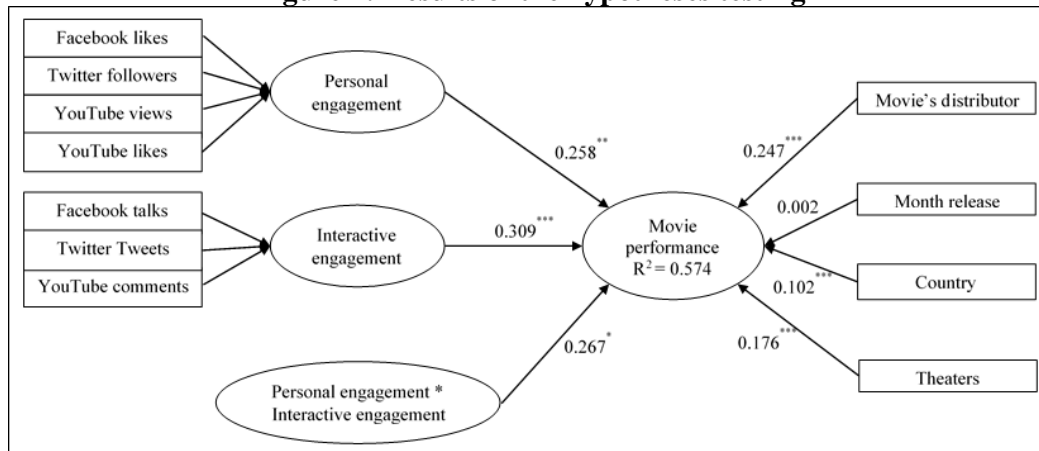
Personal engagement * Interactive engagement → Movie performance (H3)			0.267*	(1.676)	[-0.104, 0.411]	
Movie distributor → Movie performance (CV)	0.242***	(4.536)	[0.166, 0.377]	0.247***	(4.475)	[0.154, 0.371]
Month release → Movie performance (CV)	0.027	(0.582)	[-0.075, 0.098]	0.002	(0.047)	[-0.074, 0.095]
Country → Movie performance (CV)	0.066*	(1.786)	[0.007, 0.138]	0.102***	(4.995)	[0.059, 0.139]
Theaters → Movie performance (CV)	0.119***	(2.428)	[0.045, 0.219]	0.176***	(6.465)	[0.117, 0.222]
Endogenous variable	R²	Adjusted R²	R²	Adjusted R²		
Movie performance	0.507	0.504	0.574	0.577		
Discrepancy	Value	HI₉₉	Value	HI₉₅		
SRMR	0.035	0.037	0.036	0.038		
d_{ULS}	1.477	1.642	1.688	1.821		
d_G	0.361	0.770	0.397	0.967		
f²						
Personal engagement → Movie performance (H1)	0.103			0.095		
Interactive engagement → Movie performance (H2)	0.114			0.137		
Personal engagement * Interactive engagement (H3)				0.157		
Distributor → Movie performance (CV)	0.082			0.099		
Month release → Movie performance (CV)	0.001			0.000		
Country → Movie performance (CV)	0.008			0.022		
Theaters → Movie performance (CV)	0.020			0.049		

Note: "t-values in parentheses. Bootstrapping 95% confidence interval bias corrected in square bracket (based on $n = 4999$ subsamples). † $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$ [based on $t(4998)$, one-tailed test]. $t(0.05, 4998) = 1.645$; $t(0.01, 4998) = 2.327$; $t(0.001, 4998) = 3.092$." (Benitez et al. 2018a, p. 140).

In the second alternative model, we include genre as a control variable in our proposed model. One may question that there could be some differences in movie performance, depending on the movie genre⁵. We control for movie genre and the analysis yielded similar results (H1: $\beta = 0.258$, $p_{\text{one-tailed}} < 0.010$; H2: $\beta = 0.315$, $p_{\text{one-tailed}} < 0.001$; H3: $\beta = 0.259$, $p_{\text{one-tailed}} < 0.050$). However, the relationship between movie genre and performance was not significant ($\beta = -0.027$). This model has a worse overall fit than our proposed model because "the discrepancies were below the 99%-quantile of the bootstrap discrepancies" (Benitez et al., 2018a, p. 138) instead of the 95%-quantile. Thus, our proposed model provides a better explanation of the phenomenon of interest (Benitez et al., 2020a), and it was preferred as the core proposed research model.

⁵ We thank an anonymous reviewer for this suggestion.

Figure 2: Results of the hypotheses testing



Note: Figure 2 presents the results of model 1.

4.4. Post-hoc multi-group analysis: The U.K. versus the Spanish market

Based on the cultural differences between the U.K. and Spain, one may expect that there could be statistically significant differences in the proposed relationships between the movies released in the U.K. and Spain. We conducted a post-hoc multi-group analysis to explore these potential differences. The results show no statistically significant differences in our proposed model between the movies released in these two countries. Based on Hofstede's (1980) cultural differences framework, one may conjecture Spanish and British users may have different social media-driven engagement. Unlike British, Spanish users may engage in social media to reduce information asymmetry to avoid uncertainty and capture movie group information to consider enjoying a movie collectively. However, the associations between social media-driven personal and interactive engagement and movie performance are not statistically different in the two investigated countries. Thus, despite the cultural differences, the results apply similarly to both countries. Future IS research should examine whether these cultural differences between individuals and organizations are still significant in the era of globalization and digital boost.

5. Discussion

This investigation examines the predictive role of personal engagement and interactive engagement on movie performance and the complementary role of both engagements in this equation. Our

research model was tested on a sample formed from 966 movies released in the U.K. and Spanish market between December 2015 and November 2016, and the empirical analysis suggests that personal engagement and interactive engagement have an association with *"movie's future box-office economic performance"* (Oh et al., 2017, p. 34). Specifically, we found that interactive engagement has a greater impact on movie performance than personal engagement. This can be explained because interactive engagement is a golden type of customer engagement which is represented by activities that require more time and cognitive effort (e.g., commenting) than other easier and silver activities such as liking (i.e., activities which are a manifestation of personal engagement) (Banerjee and Chua, 2019). Interactive engagement entails interacting further and more explicitly, and we find it to have a higher association with movie performance than personal engagement. We also find that personal engagement and interactive engagement interact to predict *"movie's future box-office economic performance"* (Oh et al., 2017, p. 34). The empirical analysis thus supports our proposed theory (i.e., personal engagement and interactive engagement are associated with movie performance, and both engagements are mutually reinforcing on their prediction of movie performance). Contrary to our expectations, there are no statistically significant differences in our proposed model between the movies released in these two countries.

This research makes three major contributions to IS research. First, the emerging topic of customer engagement via social media is poorly understood. Specifically, the phenomenon of pre-consumption online engagement about products or services that customers are aware of but are not available in the market requires theory-building and empirical testing. We contribute to shed light on this topic of pre-consumption social media-driven customer engagement in the movie industry. Most of the prior studies analyze the effect of word-of-mouth generated via social media on movies already released. Instead, we focus on the effect of word-of-mouth generated via social media before movies are released. A unique feature of the movie industry is that all weeks are not considered equally important since many managerial decisions need to be made weekly (Liu, 2006). The highest-earning time for

most movies is at the time of release, specifically the opening-weekend (Gopinath et al., 2013; Oh et al., 2017), that is why it is important to understand the role of customer engagement on social media in predicting movie performance and discovering how to manage it successfully. Moreover, "*movies are cultural goods with an experiential nature*" (Liu, 2006, p. 76), which receive great public interest, generating high customer engagement. Therefore, we found that customer engagement via social media before consumption is an important tool for predicting the movie's success and developing effective customer targeting strategies.

Second, most of prior IS research on the IT business value and, specifically, the previous studies about the movie industry have been conducted in the U.S. market (e.g., Duan et al., 2008; Gopinath et al., 2013), leaving other impactful markets (e.g., the U.K. and Spain) which have become crucial in this industry, unexplored (Benitez et al., 2018b). We examine the effectiveness of personal engagement and interactive engagement on the U.K. and Spanish markets' economic performance. Moreover, with a few exceptions (e.g., Oh et al., 2017), research on the impact of customer engagement via social media on "*movie's future box-office economic performance*" (Oh et al., 2017, p. 34) considering multiple channels is very limited in IS research. For example, Duan et al. (2008) suggest that word-of-mouth valence influences word-of-mouth volume, improving box office performance, focusing on review-type of word-of-mouth and post-consumption patterns. Gopinath et al. (2013) suggest that release day performance is more affected by blog volume and advertising before the release day, whereas post-release performance is affected by post-release blog valence and advertising. Differently, our study provides new evidence on how personal and interactive engagement are associated with "*movie's future box-office economic performance*" (Oh et al., 2017, p. 34). Unlike prior IS research, we focus on multiple social media channels (i.e., Facebook, Twitter, and YouTube). Third, there is no study investigating the interaction role of personal engagement and interactive engagement enabled by social media on movie performance. This manuscript improves our understanding of how personal and interactive engagement interact to predict movie performance

based on the relational nature of the social media affordances, which motivate the customer to engage in social media platforms.

Even though this study has important contributions, we identify some limitations that derive exciting opportunities for future IS studies. First, our results can be only referred to movies released in the U.K. and Spain. *"We have not explored whether the proposed theoretical model is supported in samples of movies of other markets"* (Benitez et al., 2018a, p. 141). Moreover, it could be expected that the individual behavior from these two different cultures to be different in this context; however, the post-hoc multi-group analysis suggests that there were no statistically significant differences. The lack of different results between these two countries may be explained because, in the new digital society, the social media behavior from different cultures tends to be more global and similar, especially in the same continent. Future IS research should explore whether these results are supported in different industries to understand whether social engagement may determine products' sales announced and not yet released. We believe that the concept of pre-consumption social media-driven customer engagement will bring exciting avenues for future IS research. Second, *"we analyzed three of the most popular external social media sites but did not examine the role of other social media sites"* (Benitez et al., 2018a, p. 141), which may be important in this context, such as WeChat (in China), Instagram, blogs, or temporary social media sites such as TikTok, Snapchat, or Instagram stories. Third, we cannot claim causality but positive associations; *"evidence-based on longitudinal research is needed to further determinate causation"* (Chen et al., 2015, p. 655). Fourth, in normal conditions, movies are presented in public, and social media profiles are created with similar anticipation. However, future studies should analyze whether there are differences between high and low anticipated movie distributor strategies. However, this potential effect has been controlled through movie distributors in our analyses.

The results of this study provide critical lessons for IT and business executives. Pre-consumption social media-driven customer engagement predicts movie revenues. First, our results suggest IT and

business leaders should consider and manage personal and interactive customer engagement behavior on social media sites such as Facebook, Twitter, and YouTube to affect the customers' perceptions about the movie (Xu et al., 2015) and leverage social knowledge to forecast sales and develop effective business strategies. Specifically, movie leaders should invest in exclusive social media content and plan elaborated strategies to engage customers. For example, the Hunger Games movie has a campaign where users may become part of the fantasy world and join different districts to compete against other districts. Each district has its Facebook page, creating a strong sense of community. Moreover, they create incentives for users who are involved, boosting customer engagement and movie performance. Second, the complementary role of personal and interactive engagement suggests IT and business executives boost interactive engagement, which is a golden type of engagement, which entails engaging further and reinforces personal engagement. Synergies are guaranteed. The movie industry's executives can create incentives for users who engage further. Third, our results suggest customer engagement is positively associated with future sales. Managers can actively encourage personal and interactive engagement in which people express their purchase intentions and opinions on social media sites such as Facebook, Twitter, and YouTube. Managers should develop the ability to leverage coordinated social media strategies across different platforms to take advantage of social media-driven customer engagement to improve movie performance. Business leaders can direct users from one social media to another through links. For example, they can post-movie information on Facebook with a link to the YouTube trailer. Finally, our results and future IS research directions suggest all industries' IT and business executives coordinate social media and integrate this IT into the firm's digital business strategy to encourage pre-consumption digitally-driven social media customer engagement, a crucial predictor of future revenues and firm performance. Who wishes to take the relay?

6. Core conclusions

We investigated the role of customer engagement on social media in predicting movie performance. Specifically, we examined two types of social media-driven customer engagement: personal engagement, which is considered as a silver type of engagement, and interactive engagement, which is considered as a golden type of engagement, both via Facebook, Twitter, and YouTube. We found a positive relationship between social media-driven engagement and movie performance. We concluded that personal engagement and interactive engagement are positively associated with movie performance, and these types of customer engagement play a complementary role in their contribution to movie performance. Our findings show IT and business leaders that they need to carefully intensify and encourage the pre-consumption customer engagement on social media to maximize movie performance. Quo Vadis? (Palvia et al., 2020).

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