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A Social Content Network Proposal for World Films: three essays on the topic

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Doctoral Thesis in the Digital Media Program Austin | Portugal

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2018

Acknowledgements

Abstract

With digital media technologies pervading our lives and accelerating the future of online films, the way film lovers experience films has undergone a major shift; what was formerly a communal activity is now increasingly individual in its reception and fragmented in its social experience.

Faced with this immense momentum of media change and social revolution, there is one important feature that emerges from our research: from one hand, the ubiquitous presence of the new media applications is leading to individualized forms of film reception and social isolation; on the other hand, the network architecture of the Internet is creating new possibilities for the reintegration of the film lover.

We argue that a new re-conceptualisation of the area is required. Thus, in the first essay, it is surveyed and analyzed the relationship between 'social media' landscape and the 'over-the-top' (OTT) film industry and provide a new market overview.

By clearing up the boundaries and affordances of the distinct media platforms and by discussing the opportunities opened by the development of pervasive social computing, we sustain the development of a new film service that aims to merge the entertainment of online films and the mutual relationships between film lovers, emphasizing thereby the sociability between them is needed. Thus, in the second essay, it is proposed a new film-centered social network model that reaches beyond the functionality-based approaches to the development of OTT video sites and focuses on domains related to sociality.

Since SCNs are innovative, yet to be considered valuable by film lovers, an evidence-based (in current IS usage models) is needed to validate which social affordances are crucial to influence their decision towards the intention to use a SCN. Thus, the third essay developed and empirically tested a comprehensive framework to examine the film lovers' intention to participate in a SCN.

Resumo

Com as tecnologias média digitais cada vez mais impregnadas no nosso quotidiano e acelerar o futuro dos filmes *online*, a forma como os fãs de cinema experienciam os filmes observou uma grande mudança; o que antes era uma actividade comunitária é agora cada vez mais individual na sua recepção e mais fragmentada socialmente.

Diante do impulso de mudança nos média e de revolução social, há uma característica importante que emerge da nossa investigação: de um lado, a omnipresência das novas aplicações media está a originar formas individualizadas de recepção de filmes e ao isolamento social; por outro lado, a arquitectura de rede da Internet está a criar novas possibilidades para a reintegração dos fãs de cinema/filmes.

Nós argumentamos que é necessária uma nova re-concepção da área. Assim, no primeiro ensaio, é examinada e analisada a relação entre os "médias sociais" e a indústria de filmes "over-the-top" (OTT), fornecendo assim uma nova visão geral do mercado.

De seguida, ao clarificar os limites e os recursos das diferentes plataformas de média, e ao discutir as novas oportunidades proporcionadas pelo desenvolvimento da computação social generalizada, é sustentado que é necessário o desenvolvimento de um novo serviço de filmes que efetue uma fusão entre o entretenimento dos filmes *online* e as relações entre os fãs de cinema/filmes, enfatizando dessa forma, a socialidade entre eles.

No segundo ensaio, é proposto um novo modelo de rede social centrado nos filmes que ultrapassa as abordagens mais funcionais no desenvolvimento de *sites* OTT e que se concentra em domínios relacionados com a socialidade.

Como as redes sociais de conteúdo são inovadores e ainda não legitimadas pelos fãs de filmes, é necessário um modelo de uso baseado em evidências (nos modelos de uso dos sistemas de informação) para validar quais as características da componente social que são cruciais para influenciar a decisão de intenção de uso de um SCN. Assim, no terceiro ensaio é desenvolvido um enquadramento abrangente que permite analisar e testar empiricamente a intenção dos fãs de cinema/filmes usar uma rede social de conteúdos.

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Introduction

What do we really know about the online film landscape?

The current rate of change in technology, consumer behaviour, and the new business models are accelerating the future of online films. The emergent popularity of Over-the-Top (OTT) media services such as Hulu, YouTube, Amazon and Netflix has opened up the global film landscape, altering the way we access and engage with films (Cha and Chan-Olmsted, 2012; Gubbins, 2014).

An important feature of this dissertation is the recognition that our research is not just about the technology; it is also about the huge numbers of film consumers who now have access to it and what they are doing with it. Film consumers are now able to watch films practically anywhere or anytime they wish, while having access online to all aspects of film culture (Tryon, 2013). Without any contradiction, convergence mechanisms and the Internet created a world in which films are ubiquitous and can be watched on personal devices, such as laptops, tablets, smartphones, etc. On these devices, the viewing experience in OTT film services coexist with the social practices surrounding film in other film-related websites, forums, social media platforms and social networks, resulting in a social trend in multimedia data generation and consumption (Christie, 2012; Juhlin et al., 2013; Sang, 2014; Adolf and Deicke, 2015; Wiard and Domingo, 2016).

Despite the growing literature, these disruptive changes still represent a challenge domain for scholarly research, specially to the disciplines of film, media studies, social behaviour and social computing related studies (Lee and Chen, 2013). There are a number of trends regarding how film is produced, consumed, shared, and interacted with that require a re-conceptualisation of the area (Juhlin et al., 2013; Sang, 2014; Adolf and Deicke, 2015). OTT video delivery is not only affecting economic models and practices of the film industry; it is also promoting an on-demand film culture and transforming the practices and perceptions of media culture. Research has failed to depict these distribution systems that allow millions of individuals to interact and stream films, which has resulted in extensive misunderstandings about the actual essence and configuration of the online film industry.

The guiding principle for our research is to understand the emerging socio-technical developments and social practices that are shaping film in an online era, and offer an

interpretation of how individuals engage with films in this new dynamic environment; and answer to the question of how can we accelerate the demand of world films. Thus, we begin our research with a market overview and provide a new perspective about the transmutation of the film value chain ignited by the massive adoption of social media, streaming video and the Internet.

Challenges and opportunities

In a social age characterised by the rise of social multimedia platforms and changes in the consumer behaviour, OTT video providers —realizing the power of social media, are now facing the challenge how to implement these tools and improve their business models (Weide, Kevorkian, & Ireland, 2011). Empowered by social computing technologies, leading OTTs started to connect actively with consumers on other social media platforms and incorporate social media functionalities for a more enriching consumption experience.

But blending dynamic social media processes with traditional infrastructures presents complex challenges. And, although OTT websites evolved to become more social, many observers have noted the OTT video is strongly connected to processes of fragmentation, segmentation and the loss of social capital that might cause individualization in the sense of increased physical separation and a decline of personal interaction (Adolf and Deicke, 2015). This means, despite the affordances of social computing, OTT providers are missing the opportunity to take advantage of users' need for explicit interaction and of on-site relationships (Yan et al., 2013; Sang, 2014).

Accordingly, film viewers are now re-imagined as individualized. This proposition fails, however, to account the integrative features of social networks. We acknowledge the network architecture of the Internet creates new possibilities for reintegration of audiences that consume films and share social practices, values and discourses (Napoli, 2011; Tryon, 2013; Adolf and Deicke, 2015; Wiard and Domingo, 2016).

New film cultures are emerging online. Film lovers who see films as sources of the self and relational intimacy are coming online in large numbers, not just to watch films, but also to interact and be socially integrated through films. Currently, the missing differential in the film ecosystem is an aggregated community, one united by values, interests, and behaviours; a community that provide a shared context for film lovers to communicate

and share information, films, and personal experiences, and that focus on features that play a salient role in constructing individual profiles, vital for social integration and social cohesion (Hope, 2013; Adolf and Deicke, 2015).

The boom in social media platforms and the skyrocketing demand for online video is now perceived as an opportunity for niche content that may otherwise be in short supply on mainstream platforms (Hope, 2013; Gubbins, 2014). Because film tastes are more diverse on OTT video, and the niche is global, media companies and media entrepreneurs can "aggregate disperse audiences" that are similar in their film-taste and tap into its specialised demand (Screen Australia, 2014). World films for example, have strong opportunities in an online, on-demand film culture, but they require to actively consider new business models and new pathways to its audiences.

The participatory property of social multimedia offers a new solution perspective. Thus, based on a discussion of the concept objectualization that points towards films as relationship partners in embedded environments, and considering the developments of pervasive computing, we envision a pervasive sociality between online film lovers. At the heart of our approach lies the concept of a film-centred social network (Engëstrom, 2005; Marie et al., 2011; Adolf and Deicke, 2015).

Social content network systems

Confronted with a market of dissatisfied film lovers that are craving to belong to a community that share the same tastes in films, we suggest throughout these essays that SCNs are a creative solution for those who want to watch world films, to have ongoing interaction, and is a space of inclusion for those with desire for social relationships nearly as rich as those in real life (Bouman et al., 2008; Marie et al., 2011; Akgun, 2014; Adolf and Deicke, 2016; Ooyala, 2016; Wiard and Domingo, 2016). We should not forget that films are one incredibly powerful social tool capable of bringing people together in a shared experience.

A SCN is a social structure where film is the reason why people affiliate with each specific other and not just anyone. And, in our research, world films are at the same time interaction triggers, context providers and communication anchors (Engëstrom, 2005; Marie et al., 2011; Adolf and Deicke, 2015).

In this dissertation, we introduce our SCN. Note that this is the first hybrid multimedia platform where film lovers actively participate in generation and consumption processes, and where the interaction is a generalised principle, which consists of film lover–film lover relationships, content–content similarities and film lover–content interactions.

Overview of the dissertation

The dissertation comprises 3 essays. In the first essay, we analyze the relationship between 'over-the-top' (OTT) providers, social media and the film industry, and discuss some of the opportunities and challenges opened by social computing initiatives. A new social content network model that connects individuals socially through films is proposed in second essay. The third essay develops and empirically tests a comprehensive framework to examine the film lovers' intention to participate in a SCN. We conclude the dissertation by summarizing the major points and identifying the future works.

Essay 1: Social Multimedia Computing: An Emerging Area of Research and Business for Films. We survey and analyze the relationship between 'social media' landscape and the 'over-the-top' (OTT) film industry and provide a new market overview. By clearing up the boundaries and affordances of the distinct media platforms and by discussing the opportunities and challenges opened by social computing initiatives, this essay sustains that developing a social content network that connects people socially through films is both a managerial and scientific opportunity for the film industry and academic research.

Essay 2: Merging social computing with content: A proposal of a new film platform – Avids. With consumers continuously online and logged on, leading OTT providers, empowered by social computing technologies, have started to establish a social media presence and incorporate elements drawn from social media into their services. Thus, in this essay, we provide a structured categorisation of the most salient social media features of the best-known applications in the OTT video business, and then propose a new social content network model that reaches beyond more fixed, functionality-based approaches to the development of OTT video sites and focuses on domains related to sociality.

Essay 3: Determinants of users' acceptance of a Social Content Network: the case of 'film lovers'. The expansion of the OTT film market, the growing presence of online fragmented film audiences, and the evolution of Internet technologies is leading to the development of a new wave of film services that aim to merge the entertainment of online

films and the mutual relationships between film lovers, emphasizing thereby the sociability between them. Since SCNs are innovative, yet to be considered valuable by film lovers and with very few information about the factors associated to its acceptance, an evidence-based (in current IS usage models) is needed to validate which social affordances are crucial to influence their decision towards the intention to use a SCN. To fill this gap, this essay develops and empirically tests a comprehensive framework to examine the film lovers' intention to participate in a SCN.

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Social multimedia computing: an emerging area of research and business for film a neglected, emergent area of research

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Social multimedia computing: an emerging area of research and business for film[1]

Abstract

We survey and analyze the relationship between 'social media' landscape and the 'over-the-top' film industry and provide a new market overview of how distinctive media platforms are leveraging each other features as part of their business model. With an elevated penetration of mass-market OTT services and coexistence of several business models and value chains that need to be proven, our findings suggest that new entrants, to stand apart, will have to experiment new business models and with multimedia integration of content and services; and, unless they establish new niche services to communities of interest it will be difficult for them to differentiate their offerings and survive. Developing a social content network that connects people socially through films can offer media entrepreneurs and the 'world film' industry with a stable business model and a new window of opportunity in their competition for market share. By clarifying the boundaries and affordances of distinct OTT and social media platforms, the present research sustains that coupling video streaming and social networking is the future. It further bears that social multimedia computing should be used to capture and leverage the social activity and interaction of users in order to understand the drivers and trends in the film industry. Finally, it provides a direction for online world films.

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[1] Published as Governo, F., Teixeira, A.A.C., Brochado, A.M. (2017). Social Multimedia Computing: An Emerging Area of Research and Business for Films. *Journal of Creative Communications*, Vol. 12, Issue: 1, 31-47.

1. Introduction

The characteristics and reach of social media and Social Networking Sites (SNSs) are rapidly evolving; many of the features that differentiate them vanished, while others have been replicated by other genres of social media (Boyd and Ellison, 2007; Kim et al., 2010; Ellison and Boyd, 2013). Some researchers (e.g., Harris, 2009; Kim et al., 2010; Kietzmann et al., 2011) state there are hundreds of distinctive (social) media platforms supporting a broad range of interests and practices (e.g., social networking, streaming videos, discussion groups, etc.) and to know what constitutes what is becoming increasingly challenging.

While it is not easy to discern them (Hanna et al., 2011), these media platforms are taking advantage of a series of radical innovations generated by the progressive process of convergence involving the audiovisual, informatics and telecommunication industries. These latter's combination led to the development of a new variety of media platforms that, besides online video, offer simultaneously multimodal data in one stand-alone platform (Pagani, 2008; MCcann Report, 2009; Vartanova et al., 2013; Sang, 2014).

With more users adopting these online participatory technologies and turning to "over the top" (OTT) content (Oestreicher-Singer and Zalmanson, 2013; Skytide, 2014), OTT video providers themselves (aroused by the potentialities of social computing) are blending their services with social media functionality (Weide et al., 2011; Greenberg and Zanetis, 2012; Albarran and Moellinger, 2013) and becoming major platforms for multimedia content delivery and social interaction (Benevenuto et al., 2009; Tian et al., 2010).

Disruptive these changes may be to the media ecosystem itself, these platforms are, on the other hand, creating new consumption habits by changing the way people access, engage with, and perceive the current global cinematic landscape (Cunningham and Silver, 2013; Kapka, 2013; Maskin et al., 2014; Lopez, 2014); for these reasons, they are posing new research challenges to the disciplines of film, media studies and social computing (Tian et al., 2010; World cinema on-demand[2]).

Despite the entrepreneurial and academic relevance of the new many issues involving the wide prevalence of social multimedia in OTT video services and the growth of video in social media applications, researchers have not (yet) included sites that host films in a

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[2] In: http://worldcinemaod.wordpress.com/, last accessed on 20/03/2016.

social multimedia research, neither have, adequately, discussed how these transformations are affecting the business and industry practices, and failed to depict these distribution systems that allow millions of people to interact and stream films, which has resulted in extensive misunderstandings about the actual essence and configuration of the online film industry (Lisi, 2013; World cinema on-demand). Moreover, it is also not clear, and has not been taken in consideration by academic research, the market and societal relevance of these changes in the World film industry.

Consequently, the main purpose of this paper is to provide a market overview of how media platforms are leveraging each other features as part of their business model, while giving a new perspective about the transmutation of the film value chain ignited by the massive adoption of social media, streaming video and the Internet (World cinema on-demand). In this analysis, we sustain that further investigation needs to be conducted in order to offer a multilayered interpretation of how people engage with films in this new dynamic environment and answer to the pragmatic question of how can we accelerate demand and fully engage with online world films.[3]

The structure of this article is organized as follows. The next section analyzes the relationship between OTTs, social media and the film industry, and discusses some of the opportunities and challenges opened by social computing initiatives. The state of the play of the online film business is analyzed in Section 3, where we also highlight the issue of content rights, new windows of distribution and revenues gathering. Section 4 establishes the argumentation for the future merge paradigm, while Section 5 presents "over-the-top" disruption as a new window of opportunity for world film. Finally, Section 6 concludes highlighting how a social content network approach is both a managerial and scientific opportunity for the film industry and research.

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[3] World films mean firstly the films that are not distributed by the Classic Hollywood Studio System. With this in mind, world films are conceptualized as films produced outside of Hollywood that never achieved, in any meaningful sense, conventional forms of international distribution (Chanan, 2011; Kapka, 2013).

2. OTTs, social media and film industry: setting the direction for the merging

2.1. Disentangling the key concepts

Despite the growing literature regarding the film distribution, the online movie industry still represents a challenge domain for scholarly research (see Cunningham and Silver, 2013) and currently, there is lack of academic studies about how the main players are operating in this unique environment of the online film business.

Around the world, over-the-top video is becoming mainstream, and, as multiple new OTT services emerge, understanding the competitive dynamics of the market is a key challenge (Viviez et al., 2014). Thus, to best survey the cluttered and confusing media landscape of the online video space, it is of most importance, first, to separate the Over-the-top (OTT) services from the social media platforms.

Used for many types of content delivery, the term OTT signifies the method and technology of delivering content and services (NMHH, 2014). OTT services are called Over-The -Top as they are carried along (or "on top of") existing telecommunication lines and delivered to the customers via the Internet (Taga et al., 2012; Maskin et al., 2014). The services provided through OTT method include communications services (e.g. VoIP), search engines (e.g. Google), e-commerce (e.g. eBay) and entertainment video services (e.g. video on demand) (Taga et al., 2012; Moir, 2013). In this paper, we focus only at the "Pureplay" offerings (not provided directly by telecom operators) that allow some level of interaction and have (already) left their mark on the entertainment media markets, and include the better-known brands Netflix, YouTube, Hulu and Amazon (Taga et al., 2012; Robinson, 2014; Suciu, 2014).

To blur the OTT video space, the social media domain itself is quickly changing and taking numerous configurations: social networking sites (for instance, Facebook) content communities (for instance, YouTube), etc., are reproducing each other features and incorporating more salient media/social network components for their user's experience, which signals a major shift in the entertainment and promises to destabilize, even further, the online video ecosystem. Given that now, OTTs and social media platforms have both the social and media components, it becomes increasingly challenging for researchers to know what should be included under these terms (see Kaplan and Haenlein, 2010; Hanna et al., 2011; Baruah, 2012; Hong, 2012).

2.2. The evolution of OTTs and social media platforms: the redesign of the film business model

While industry and research are trying to come to terms with the above fluid definitions, there is no question: these online services have changed the production, distribution, promotion and consumption of films (Meredith, 2013). And, since the Internet has become individual and mobile, the content consumption is undergoing a radical change: the consumer demand for video has increased rapidly, more viewers are shifting their entertainment habits online, and the consumption of video influenced by social media has already obliterated non-social video in terms of audience size (Business Insider, 2013; IQPC, 2014).

The key long-term tendency in online video is precisely the ascension of social media platforms as video distribution hubs. As reported by the Business Insider (2013), a large number of viewers today, and a progressively amount in the near future, will come across or will watch video content on social media platforms and mobile-focused social video apps.

With consumers steadily using social software and adopting on-demand services, the OTT pure players are rethinking their business models and reinventing their strategies to extend the use-value of their services and exceed the consumer expectation. The major video distribution platforms (e.g., Hulu and Netflix) are now looking to established computing technologies as a means of developing more refined and unified value added services. For that end, these companies are building business models that address demand anytime and anywhere, creating thereby new markets, while "pushing" content (in some cases innovative) on a large scale (Narang, 2012; Taga et al., 2012; Brown, 2013; Cunningham and Silver, 2013). Moreover, to engage with their audience and drive more traffic to their media services, they are incorporating and upgrading social media functionalities - most of them deployed as social network tools - for a more enriching consumption experience (Alcatel-Lucent, 2011; Weide et al., 2011; Lopasso, 2011; Oestreicher-Singer and Zalmanson, 2013).

2.3. OTT to disrupt core business models

The same content providers that have been agitating the media markets, producing all sorts of collaboration and experimentation, are now forging disruptive partnerships to

build relationships with their subscribers and the general public (Rosenblatt, 2011). Fuelling this trend is the development of high-quality user-friendly interfaces (that enhance the appeal) and the integration of OTTs with social media platforms (or tools), which represents not only an example of the growing convergence between media companies, but also a new approach for OTTs to become more personal (Rosenblatt, 2011; Brown, 2013).

These OTTs are trying to find sophisticated strategies to leverage the consumer relationship, benefit from their consumer knowledge, and provide value to both sides (Rosenblatt, 2011; Brown, 2013). For example, to broaden its user base and embrace the increasing need for social interactions, in March of 2013, Netflix added the Facebook Open Graph sharing system to its site, so that users could link their Netflix and Facebook pages. This would give users the chance to improve and share movie recommendations with friends in a public forum that would be seen by non-Netflix subscribers (Knudsen et al., 2013; Yan et al., 2013).[4]

One of the aspects worth analyzing in the Netflix/Facebook relationship is the issue of identity; Netflix faced a problem, as its database did not exactly represented "my movies" but rather households. So one of the things Netflix is trying to fix on its way to becoming more social, is to become more *personal*; in other words, is targeting the individual consumer and building in individual accounts to improve its ability to track *individual* user preferences.

In addition to helping identify discrete people within a household, the Facebook opt-in feature, also suggested recommendations built upon films that friends have viewed and rated in the social network (Netflix, 2011; Rosenblatt, 2011; Yan et al., 2013). The integration indicated that more than a half of its subscribers no longer would have to endure the exhaustion of choosing what films to watch; alternatively they just would need to browse their homepage of suggestions generated by Netflix (Brown, 2013; Sales, 2013; Yan et al., 2013). Also, by providing a combined service, the social network would give Netflix with a new broad market of consumers to target, while it making the film

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[4]Although Netflix has invested a lot in their recommendation system (algorithm) in terms of the accuracy and relevancy, they still regard recommendations by friends as the most relevant way of marketing— the company claims that 75 percent of viewer activity is driven by recommendation (Yan et al., 2013). This type of sharing would mean that consumers could act as accelerates to Netflix's core business by turning non-subscribers into subscribers (Knudsen et al., 2013).

experience more compelling (Hollywood Report, 2013; Yan et al., 2013; Taibleson, 2013).

Within the OTT domain, however, Netflix has no operational superior position over competitors (Taga et al., 2012). In fact, when compared with the competition, they are still not giving their audience much of a chance to interact with, comment, or share their content (Knudsen et al., 2013). In YouTube, the best know social platform, users can connect their accounts and embed their videos to other social media, most notably Google Plus, Facebook and Twitter easing the share of information, endorsements, and thoughts about videos amid individuals with comparable interests in the social networks (Cheng et al., 2008). In fact, such a strategy of using social media design to diversify its service offerings seems to have paid off: according to several accounts, YouTube is presently the leading platform for viewing video online (Song and Wildman, 2013). In Hulu, other major competitor, members can also connect their account to social networks and get recommendations. What Hulu wishes is for users to opt in to sharing with all their Facebook, and Hulu friends and bestride the network effect from sharing and linking out to Facebook, moving thereby audiences from peripheral awareness to active engagement (Crawford, 2009; Lawler, 2011; Jenkins et al., 2013). Hulu and Amazon Video also have sharing options for Twitter, identified comments (from Facebook users on Hulu and Amazon users on Amazon), and email. Since Hulu (the commercials plan) is available to anyone online (within the US), Hulu has little to lose from letting users share their viewing data more easily.

2.4. Opportunities and challenges opened up by social computing initiatives

The skyrocketing demand for online video and the boom of social computing technologies is now perceived as an opportunity towards defining new markets that can contribute to new forms of user interaction and a more personalized viewing experience (Greenberg and Zanetis, 2012; Oestreicher-Singer and Zalmanson, 2013; Tryon, 2013). With the emergence of social computing, OTTs entered the immersion phase of IT strategy (see El Sawy, 2003) by connecting actively with consumers on several other major platforms while offering increasingly diversified ways for their audiovisual items (Greenberg and Zanetis, 2012; Oestreicher-Singer and Zalmanson, 2013).

The wide adoption of these tools is, nevertheless, creating more confusion and challenges for content providers and their users. As mentioned earlier, increasingly, users are offered the opportunity to sign into streaming services using social network accounts. The downside is that it is harder and harder to keep separate identities on the Web, as Facebook's one-identity ethos is adopted by other media companies eager to use its platform (Hill, 2012). Besides, not all consumers want to log in via social networks or share their video viewing habits with friends on Facebook (or in another identity provider such as Google+ and Twitter). Most users have a wide range of friends with different interests and levels of intimacy, and they do not want to expose their taste to all these friends. Another big concern is the fear of being misunderstood about their historical streaming behaviour. Since there are both strong connections and weak connections on social networks, it is only natural that people care about the impressions they have on friends who do not know them very well (Yan et al., 2013).

As these sites become another platform to engage with, users may see them as an extension of the content provider and find the social media integration confusing and not very meaningful (Yan et al., 2013). There is also the chance that OTT content provision services that focus their endeavours on a particular SNS could fall out of touch with current trends and miss the opportunity to preserve the connection with their consumers, who are searching other platforms to share content (Elkaim, 2014).

3. The current state of play for the online film business: how OTT is changing the value chain and revenues opportunities

Despite the progressive relevance of social media in the OTT business model, the old adage "content is the king" remains truer than ever, and a rich and varied content library is still paramount for the success of OTT video services (Alcatel-Lucent, 2011; Taga et al., 2012; Dixon, 2013; Viviez et al., 2014). For that reason, and considering that the profitability of the OTT business also depends on a large subscriber base, aggregating and secure content that attracts and retains consumers is the main occupation of the OTT players (Taga et al., 2012; Lopez, 2014).

3.1. The complex issue of content rights in the OTT video landscape

In the traditional media value chain, an OTT negotiates the rights to deliver specific content provided by a content owner. Once these rights are granted, the service provider can incorporate the content into its branded service environment (Alcatel-Lucent, 2011). As more consumers are opting to stream films through the web and the global demand for content is so acute, video providers are constantly striving to offer exclusivity and original programming, while competing to secure rights over new content, placing ascending pressure on prices (Taga et al., 2012; Dixon, 2013; Seals, 2014; MTM, 2015)[5] — not to mention the lifespan of licenses, which must continually be renegotiated, often at a stepped-up price, every time they expire (Dixon, 2013; Edelman, 2013; Knudsen et al., 2013; MTM, 2015).

As a consequence of these intricate content rights procurement and the disparate windowing regimes across markets, leading OTTs are experiencing difficulties in their global expansion, and in the harmonization of their content libraries (Taga et al., 2012; Sappington, 2015).[6] The international expansion requires working with content owners to clear the rights, and to address intellectual property and licensing issues, global negotiations are, normally, negotiated by film, by geography and by a business model basis. These agreements can take a while to be established (see Taga et al., 2012; Knudsen et al., 2013; Hulu, 2015).

Thus, taking into account that having their core value of business yield to to a third party control (being vulnerable on a systematic basis) was not the best business strategy for the long-term success, Netflix, Hulu and Amazon stopped acting as mere intermediaries in the value chain and started to invest heavily and produce (at lower cost) their own content (Taga et al., 2012; Lopez, 2014).[7]

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[5] After selling the streaming rights to leading premium OTT aggregators at low prices because they thought over-the-top video would go nowhere, content owners are now making their streaming licenses pay off; the high appetite for online content, and the trend for long viewing sessions convinced them that their assets are in high demand, thus, the prices can only go higher (Ascharya, 2014). In 2012, Netflix spent about 48 percent of its revenues on content acquisition, or about $1.7 billion, mostly focused on the acquisition of licenses to stream third-party content. The amount spent on the production of original content was relatively small: just $100 million for two 13-episode seasons of *House of Cards* as an example (Seals, 2014).

[6] For example, in France, an OTT video provider can only access to films with three years old (Taga et al., 2012).

[7] The investment in original content provides SVOD services with a hedge against spiraling content costs, which have increased 700% in just two years. While investments in original content can be expensive and risky, it buys leverage and the potential to better control their fate. Despite all these advantages, Netflix and its peers also do not necessarily want their original programming to eclipse that of their suppliers – the

3.2. New on-demand windows of distribution

After coming forward in the supply chain to produce their own content for direct release in their platforms (see Neubauer et al., 2013 and Moir, 2013), OTTs are changing the current sequence of commercial windows to handle more innovative ones, such as the case of Day-and-Date (DIY) release strategies, where films are simultaneously released in VOD and cinemas (Tide, 2013). Netflix, for example, to pursue their strategy to release high-profile, exclusive films, made the bold move of purchasing the worldwide rights of the film *Beasts of No Nation* (2015) and, in an interesting twist, became a first-run distributor by releasing it in cinemas and on its streaming service simultaneously (Lee, 2015).

3.3. Mix of established and new revenues gathering

The continued movement towards online content delivery models has led OTT video providers to develop new and mixed revenue streams to support the distribution of their content and services (Moir, 2013; De Vink et al., 2014). With advertising or Ad-supported video on-demand (AVOD), subscription (SVOD) and transactional VOD (TVOD) being the dominant methods of monetizing the online video content, there is substantial discrepancy in the nature of value interactions within these business models (Pardo, 2012; Brown, 2013; Cunningham and Silver, 2013).

The central premise backing the AVOD model is that the video content is available to consumers without a cost, or at minimal cost, as an attempt to promote web traffic (Moir, 2013). The content draws attention, which is in turn supported by the confidence of content consumers and commercial customers (advertisers) (see Knudsen, 2013).

In the OTT ecosystem, YouTube is by far the most popular player with a free-to-air approach. YouTube's principal strategy relies on advertising revenues from the attention drawn by the site's wide range of videos (Jenkins et al., 2013). But although AVOD is currently the main contributor, the giant pure player has also launched first-class channels, permitting any channel over 100,000 groups to go premium (Moir, 2013; Lopez, 2014).

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networks and studios – or they will be viewed as a direct threat and find access to third-party content greatly diminished. It will be a balancing act (Skytide, 2014).

Another approach used by OTT video providers has been to implement a hybrid model that combines elements of both SVOD and AVOD business models (Moir, 2013). These OTT (e.g., Hulu), instead of implement the traditional model that relies entirely on AVOD revenues, they offer a "freemium" model where the consumption is free and sponsored by ads, along with the option to subscribe (if the user wishes to upgrade) a premium service (with no commercials)[8] with a wider variety of content and functionalities (Brown, 2013; Gambaro, 2013; Moir, 2013). This double offering is a way for some OTT pure players distinguish their service from the innumerable competitors now available online (Moir, 2013).

It is also frequent for some OTTs (e.g., Netflix) to charge a monthly[9] or yearly subscription fee for "all you can eat" access to its content library. Success in this model, however, relies in both the depth and the range of the catalogue. Netflix, the reference in this model, has always made its money exclusively through subscription fees because operates with a reduced cost base; notorious for not having latest film releases, generally, offers delayed access to new content, which has allowed it to rely on subscription fees without the need for advertising revenues (Knudsen 2013; Moir, 2013).

To handle different genres, consumer price points and windows, the platforms' revenues models are also becoming multilayered (Bernefeld, 2012). Mubi allows SVOD, renting per unit and bundles of films for a specific payment (De Vink et al., 2014). AVOD platforms such as YouTube, and SVOD such as Amazon, are now adding premium TVOD (Bernefeld, 2012) where consumers can buy a download-to-own (DTO),[10] rent a temporary download (DTR) or buy temporary access to a stream (VOD rental), which is content available to view (not to keep) for a one-off payment (see Pardo, 2012). Other examples of Pay-per-view and rental are the OTT services Apple's iTunes and Amazon on-demand, where (without subscription) any consumer with credit card can own, rent and stream films (Lopez, 2014).

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[8]Due to streaming rights, some content are not included in the No Commercials plan. They will play with a commercial before and after each episode (Hulu, 2016).

[9] In itself, the subscription provides a predictable revenue stream (Krauska, 2009). However, as most SVOD strategies are monthly subscription without commitment, they traditionally experience high churn (Lopez, 2014).

[10] The term is sometimes used interchangeably with the Electronic Sell Through (EST). It is the sale of a title to consumers for a one-time price. The purchaser owns the content. With EST the films can be streamed or downloaded, and if they are streamed, they are usually stored in a cloud and linked to a user's account.

3.4. More complexity in the world of OTT video Services

The OTT video provision is in a relatively early stage of its life cycle, and it still undergoing (and initiating) major changes in order to find viable business models in the new competitive environment and market (NMHH, 2014). Hulu announced the removal of the "Plus" from their premium service and described the rationale (to drop the Hulu Plus brand) as a need to erase confusion among people that are trying to understand the difference between both. The industry was guessing this to be part of a vast redesign of the site and service, or maybe a plan to lessen the advertising and copy the Netflix model (Peterson, 2015; Cord Cutters News, 2015; Roettgers, 2015).

Although no official numbers have been released, there is a strong speculation that Hulu makes more from ads than subscribers. Moving away from that model would signal a shift in the way the company is run (Cord Cutters News, 2015). So far, nothing seems to have changed; similar to other services, Hulu continues to offer a free option with other features hidden behind a pay wall where Hulu offers a new membership level with no ads or very limited ads.

YouTube, intended for amateur users, evolved since its inception into a pop-culture medium that drives rapid dissemination of commercially produced videos worldwide. From its earlier days, YouTube has signed revenue-sharing deals with corporate producers to distribute their videos - everything from films, film trailers and music videos - alongside user-created content. As already mentioned, YouTube has also launched premium channels, allowing any channel over 100,000 followers to go premium. It is not yet apparent whether this strategy will be successful ((Parameswaran and Whinston, 2007; Moir, 2013; Lopez, 2014).

With the Streaming Partners Program, Amazon is also experimenting with new forms of distribution, to set itself apart from streaming competitors Netflix and Hulu. Unlike the rivals, Amazon's plan is to offer itself as more of a platform for others' content. Amazon says it will help small providers acquire more subscribers, handle customer service, manage billing and credit cards, and deal with streaming their content to different devices. At the same time, those smaller services get to keep their name and brand intact (Alba, 2015).

With the online distribution market in a flux, rather than a clear scenario, the general direction seems to point to the coexistence of several business models and value chains

that still need to be proven. As the market becomes more crowded and competitive, moving from business to business model is going to be difficult for OTTs to accept, but that is the new reality of competing successfully in the digital video services (Dobberstein et al., 2012). Thus, we conjecture that newcomers will have to experiment with new models, multimedia integration of content and services, and extensive partnerships with rights owners and advertisers, because the potential for mining and exploiting value of a social multimedia platform might open new sources of revenues.

4. Social networking and video streaming: the merging paradigm

Perceived as important points of entry to OTT content consumption, social media platforms are now manoeuvring as the infrastructure or are being tested as a window per se for commercial exploitation (Goldsmith, 2012; Narang, 2012; Brown, 2013; Ward, 2014). Facebook has already released, as an experiment, a small number of films for streaming rental. The participation in the online film distribution was temporarily, but accordingly to Cunningham and Silver (2013), the social network has the scale, resources and a user-base to be a serious contender if it chooses to do it, and there are some indicators that it might.

Mark Zuckerberg has already delineated his determination for Facebook to become an entertainment hub, allowing not only sharing and endorsement but also consumption (Halliday 2011; Brown, 2013). The social network understood that by adding video content to the social media offerings, they can provide the best "virtual" platform to better connect people for both social and entertainment purposes,[11] and, according to its CEO, in five years, most of Facebook will be video. The social network's big plan, going forward, is to develop an infrastructure to support and to make of video an integral part of their social experience (see Richardson, 2014). In doing so, however, they are in rivalry with other major conventional players, each of which is targeting, in diverse ways, to deliver the structure for digital distribution (Brown, 2013).

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[11] While social networks are not (yet) entirely accepted as entertainment companies, they are the champions in expanding value to the consumer experience (Edelman, 2010); and, based on a THR study, The Hollywood Report reveals that 9 in 10 consumers look at social networks as a new form of entertainment (Hollywood Report, 2012).

5. Over the Top video as an opportunity for world films

Despite the Internet stimulates the demand for films and 'over the top' video is now widespread (Viviez et al., 2014), the prevailing consumption of films does not match the yearly production output of approximately 50,000 films (Hope, 2013). And since consumers are (generally) much more satisfied by hit products than by niche products (Tan, 2014), the main industry's economic models and mass-market services offerings focus mainly on providing films targeted to mainstream consumers - around 1% of the world's annual supply, and fail to address consumers' desires to expand their access to the world's cultural diversity through a broader genre of content (Hope, 2013; Jenkins et al., 2013; Viviez et al., 2014; Tan, 2014; MTM, 2015).

While the penetration of mass-market OTT services is perceived as elevated, the market for niche services is relatively underdeveloped (MTM 2015), which means that consumers seeking "free" world films still find minimally attractive content online. Nonetheless, the recent innovations are disrupting the niche film industry and opening a new window of opportunity, by ending, in the context of transnational circulation, the audiovisual "market failure" caused by shortage of range, which restricted the channels from which the public could obtain content (Graham, 2006; Venturini, 2011; Gubbins, 2012; Jenkins et al., 2013; Osterwalder and Pigneur, 2013; Viviez et al., 2014). Additionally, although it may be true the majority of consumers do not venture into niche films as deeply, there are, as one can easily observe, multiple audiences and a considerable variation between consumer segments in film preferences (Graham, 2006; Tan, 2014).

For the aforementioned reasons, independent filmmakers and a wide range of niche services are now harnessing these digital forms of online distribution and making available a much larger number of films with a low concentration of demand (Graham, 2006; Costa, 2012; Gubbins, 2012; Jenkins et al., 2013). Be as it may, access is not the same as engagement, and without the budgets and platforms of big media companies — and amid the competition, it is still hard for independent content creators to connect with the right audiences, who, understandably, feel overwhelmed by the number of films and start-up distribution platforms (Jenkins et al., 2013).

With many new services appearing across global markets, and despite the optimistic prospects for niche OTT providers, we argue that, in order to survive, new entrants have

to find ways to stand apart from other OTT services (MTM, 2015; Sappington, 2015). And, unless they establish new niche video services with distinctive benefits to communities of interest that include existing fan bases and connoisseur films, it is likely to be increasingly difficult to differentiate their services from existing offerings (Jenkins et al., 2013; MTM, 2015).

We also argue that, with the development of on-demand services and the proliferation of individual (and portable) digital devices (that make it easier to watch films), the viewing activity is becoming increasingly solitary. For that matter, new entrants cannot ignore that films are social experiences and people still see films to enjoy a shared cultural experience and establish both individual and group identities (Rosenblatt, 2011; Jenkins et al., 2013). Plus, as evaluations and understandings of films are socially determined, films also affect how individuals socialize.[12] While mainstream films help us all "be friendly" and provide a common ground for conversation with a wide variety of people, niche films help people to find "best friends" and to distinguish their particular interests and sensibilities from most others (Jenkins et al., 2013).

Thus, while our shared film experience is deteriorating and taking us away from the world, people around the world are still looking for similar individuals to connect socially through films, and still rely on a network of like-minded individuals to help them distinguish themselves and to choose content (Rosenblatt, 2011; Jenkins et al., 2013). However, little attention is being paid to these increasing niche consumer bases that are craving for social integration and ways to connect socially through films (Rosenblatt, 2011). As follows, we argue there is a clear growth potential for an OTT video service[13]where worldwide fans (communities of interest) can encounter world films (that respond to their demand), that is at the same time, a (social) space to find affiliate people whose online interactions are based upon the same shared enthusiasm (see Kozinets, 1999; MTM, 2015).

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[12] We get recommendations from friends and we frequently readjust our evaluations when those whose tastes we respect have differing opinions. Deciding to like or not like, or to consume or not consume a film has always been a social process (Childress, 2012).

[13] Regarding the supply factor, there is a wealth worldwide archive of world films that is not yet available or monetized (and that could be acquired at a relatively low cost) and whose value is muted if consumers are unable to find it (see Viviez et al., 2014).

6. Concluding remarks

6.1. Proposing a social content network for world films

Films have been the primary attraction on OTT thus far, but the fact that modern viewers go continuously online for their film experiences, and an increasing number of VOD platforms are directly linked to social media platforms is the most compelling evidence that the social film experience is beginning to migrate onto the web.

However, even today is hard for consumers to know "where" interact: OTT video sites still exist as final destinations to watch content, and the social film experience often exist in silos that require consumers to switch and navigate between many different platforms, resulting in a counter intuitive and fragmented film experience (Weide et al., 2011; Maskin et al., 2014; Marie et al., 2011).

Give the above, we envision that the future of world films does not (only) consist in content aggregation, which is quickly becoming commoditized, but (also) in audience aggregation. However, at the present time, there is no audience aggregation platform solely for those passionate about world films, no place where all can engage deeply around films and form meaningful relationships (Hope, 2013). This led us into the question how to balance of the interconnections between relationships with films and relationships with people.

Taking into consideration that OTTs are experience-centric and social networks award individuals a public voice that can be connected worldwide, we argue that it may be worthwhile for media entrepreneurs leverage the desire of film community and develop a free-to-air business model[14] - a hybrid between "content provider" and "virtual community" (Weill and Vitale, 2001; Oestreicher-Singer and Zalmanson, 2013) - that we refer as a social content network, and provide a broad mix of content that better fits to the specific taste of the world film lovers community (Weill and Vitale, 2001; Geddes, 2012; Sánchez-Tabernero et al., 2013).

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[14] A SCN with an ad-supported revenue strategy appears to be, at present, the most propitious business model; by providing opportunities for demographic, geographic, and even behavioural targeting, a SCN offers the promise of a higher return on advertising spending (Viviez et al., 2014). According to Ettinger (2013), advertisers for unpaid services want to be on the platforms with most users, especially if the platform allows them to more effectively reach users in their target demographic; and content owners want to be on platforms with most users, if they are paid on a royalty basis.

The connection between users would be the root of the service, with world films acting as a vehicle for connection building (Weide et al., 2011). The connections could be made well beyond the traditional social networking foundation of friends and family, and be based on connecting filmmakers, tastemakers, researchers and enthusiasts from over the world, all contributing to a more personal and real-time engaging experience (Kaldoudi et al., 2011).

The basic premise would be to replicate the social film experience by blending relationships, real time interactivity and cinematic narrative.[15] In the essence, this content network would improve the model of traditional social networks, in which interactions with other members are central and reasons for interacting with them, including content interest, are secondary (Weide et al., 2011). By resetting a social network around interest for world films and friendship clusters, the contentitself will spread more rapidly and will be carried forward through the power of personal ties and trusted recommendations.

In this time of transition, as more films get spread through devices that rely deeply on the backing of passionate followers (Jenkins et al., 2013), we conjecture that a SCN focused on world films as objects at the heart of connection between people, can be the engine for the world *cinephilia* experience, and a stable business model for media businesspersons in their struggle to get market share via social media stands (Venturini, 2011; Narang, 2012; Khajeheian, 2013).

We speculate that a trend of higher levels of engagement through a SCN can, theoretically, accelerate the demand, generate new taste groups/large audiences by exploiting network effects, lock in exclusive content agreements and, ultimately, be a transformational force in the world film industry (KEA, 2010; Gubbins, 2012; Ettinger, 2013; Jenkins et al., 2013; Oestreicher-Singer and Zalmanson, 2013). The emergence of such network is even more relevant today, with the increasing need for dynamic content and new emergent market for interactive films[16] that are presented through the lens of social media (e.g., Him, Her and Them; Inside; The Beauty Inside; The Power Inside).

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[15] Our understanding of the role of supply and demand in world films is based on the concept that films are instruments of potential communication.

[16] Social films are interactive films distributed digitally and integrated within a social networking service. A social film engages viewers to interact directly with the audiovisual work through the social media tools available (See wikipedia.org/wiki/Social_film; Karpel, 2011; Shenkler, 2011; Zachia, 2013). As the film can be released in the social content network, we are able to measure the audience engagement in ways that is impossible in traditional social media and streaming sites.

6.2. A two-way social content network: a forward approach for future research

Although we live in an exciting time for multimedia research, with huge streams of data "available" for research (due to the growing volume of content, online viewing and digital interaction in both OTTs and social media platforms) the need for comparable data to understand the impact of these changes in the contemporary film culture has never been greater. Because of the competitive advantage, incumbent companies are, however, reluctant to share comprehensive data and particulars of their systems in the academic sphere (Lew et al., 2006; Bernestein et al., 2011; Shang et al., 2011; Markoff, 2012; Gubbins, 2014). This is a problem. As consequence of restricted access to data and OTT video systems, there is a lack of research that is holding back contemporary information about the influence and implications these consumer-centric businesses are having in the film industry, especially in the world cinema, and that is risking to leave behind studies about online distribution (Cinema on-demand; Gubbins, 2014).

As many of the new topics involving social activity and interface around films must be approached in a media-specific way, we argue there is a need to renew film as a social object and bring into view aggregate levels of online sociality that are world film-centered (Naaman, 2010; Marie et al., 2011). As result, we sustain that researchers need to forge their identity between academics and entrepreneurs and design an interactive system, or a social content network, that brings world films and film lovers in the same space, and offer a different avenue for film research in the social multimedia domain (NextMedia, 2010; Naaman, 2010; Bernestein et al., 2011; Vartanova et al., 2013). Researchers could, for example, use social multimedia technologies to enable more powerful social interactions, extract new explicit and implicit metadata and use complex behavioural data to understand, for example, the user's tastes or even study the social dynamics within the film community (see Naaman, 2010; Tian, 2010; Kaldoudi et al., 2011; Konstantinidis et al., 2013; Gubbins, 2014) because, only by engaging with consumers within these new structures of content, researchers can learn and tell about their dynamics of consumption and interaction.

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Merging social computing with content: A proposal of a new film platform – Avids

Merging social computing with content: A proposal of a new film platform – Avids

Abstract

Individuals have a variety of ways of creating their social environment. These include communities, networks, objects and systems. With consumers continuously online and logged on to various social platforms, leading over-the-top (OTT) providers – empowered by social computing technologies – have started to establish a social media presence and incorporate elements drawn from social media into their services. However, little is known about existing OTT interfaces (e.g. Amazon, Hulu, Netflix and YouTube) and their key social features.

This paper provides a structured categorisation of the most salient social media features of the best-known applications in the OTT video business. In addition, a new social content network model is proposed that connects individuals socially through films. The proposed model reaches beyond more fixed, functionality-based approaches in the development of OTT video sites and focuses on domains related to sociality. This creates a unified system in which the overall social media setting is embedded in every functional area of the platform's architecture, thereby allowing the application to trigger and support social behaviours that are unavailable in traditional OTT sources.

1. Introduction

In recent years, it was witnessed a stream of web-based social applications, a large number of over-the-top (OTT) services and a proliferation of individual (and portable) digital devices (that make it easier to watch films), disrupting old conceptions in the film landscape by radically transform how individuals access, watch and interact around video content (Bouman et al., 2008; Cesar and Gerts, 2011; Vassileva, 2012; Maskin et al., 2015).

These ubiquitous technologies show that a part of individuals' lives is now spent online, leading to increasingly individualised forms of film reception and a retraction of traditional social principles, which further individualises contemporary society (Cetina, 1997, 2009; Carpentier et al., 2013; Adolf and Deicke, 2015; Ericsson AB, 2016). With consumers continuously online and logged on to various social platforms, leading OTT providers – empowered by social computing technologies – have started to establish a social media presence and incorporate elements drawn from social media into their services (Albarran and Moelinger, 2013; Oestreicher-Singer and Zalmanson, 2013; Lee, 2014). These implementations are useful, but, since users' film viewing activities are increasingly solitary and shared social experiences fragmented, the present research claims that social elements cannot be just add-ons to traditional content, but, instead, integral parts of OTT websites, and films must be included in an expanded conception of sociality and social relations (Cetina, 1997; Weide at al., 2011; Marie et al., 2011; Lee and Garg, 2012; Adolf and Deicke, 2015).

In this context, we argue that collective activities motivated by films capture the purpose of networking, and film-centred sociality is suited for a social content network (SCN) (Kaptelinin, 2005; Breslin and Decker, 2007; Lee and Garg, 2012). Thus, the development of a SCN should involve the fusion of an OTT video provider and a contact-oriented social network (Weill and Vitale, 2001; Tapiador et al., 2010) - where films, deeply tangled with social features create highly personalised experiences. At the root of these experiences are connections to other users, with films being a vehicle for connection building (Weide et al., 2011).

To create an effective social environment that expands the users' social experiences, it is needed a 'benchmark' (re)search that enables the comparison of the current social media configuration of given OTT websites, and unveils which facepoints of the users's social

media experience are not yet covered. However, by perusing the literature, we realize that little is known about existing OTT interfaces and their key social features.

The present study, therefore, sought to overcome these gaps and add to the existing literature in three main ways. First, this is, to the best of our knowledge, the first study to provide a structured categorisation of the most salient social media features of the best-known OTT video applications. Second, this paper includes a proposal of a new SCN model that reaches beyond functionality-based approaches on social software design and focuses on choices related to sociality. Last, the study's results demonstrate that SCNs represent the next step in the evolution of content websites, as they provide the suitable space to consume, connect, and instantly share multimedia information between like-minded individuals (Next-Media, 2010).

The present paper is organised as follows. In the next section, we describe the upsurge of OTT multimedia platforms, followed by an examination of their social media strategy and a comparison of media features present in their current interface environment. Section 3 suggests the step towards the information technology (IT) fusion approach and discusses the core elements of a new SCN model. In Section 4, we present a conceptual blueprint of the overall social experience in the new proposed platform. We conclude by emphasising the role of SCNs in reintroducing sociality and supporting social behaviours that are absent from traditional OTT services.

2. Convergence process: The emerging OTT multimedia market

2.1. The rise of social multimedia platforms

OTT video services are called 'over-the-top' because they are carried along or 'on top of' existing telecommunication lines and delivered to customers via the Internet (Taga et al., 2012; Maskin et al., 2014; NMHH, 2014). 'Pureplay' video offerings (i.e. not provided directly by telecom operators) are taking advantage of a series of radical innovations in converging fields (e.g. digital video, algorithms for compression, fibre optic transmission systems and social computing) and are developing a new variety of media platforms that, besides online video, offer multimodal data (e.g. text and image) simultaneously in one media platform (Pagani, 2008; Papacharissi, 2011; Vartanova al., 2013; Sang, 2014). The OTT video services Netflix, Hulu, YouTube and Amazon are part of this technological paradigm, which can be requested over the Internet and which support a set of social

activities by allowing users to interact with multimedia by commenting and interacting with other users through social dialogues (Pagani, 2008; Sang, 2014).

Until recently, many of these OTT video providers were in the connection phase of IT strategy (El Sawy, 2003; Oestreicher-Singer and Zalmanson, 2013), perceiving the web only as an accessory channel for traditional content offerings (O'Reilly, 2005; Oestreicher-Singer and Zalmanson, 2013). With viewers turning to OTT content (Skytide, 2013) and with the emergence and success of social computing, many OTT providers entered in the 'immersion phase' (El Sawy, 2003; Oestreicher-Singer and Zalmanson, 2013). They started to connect actively with consumers on other major social media platforms and incorporate social media functionalities for a more enriching consumption experience (Alcatel-Lucent, 2011; Lopasso, 2011; Weide et al., 2011), becoming to this end, platforms for multimedia content delivery and social interaction (Benevenuto et al., 2009; Tian et al., 2010; Yan et al., 2013). To enhance the online experience, users were encouraged to engage with the content and one another by posting comments, conversing on user forums and sharing content – either on the websites themselves or through existing popular social computing platforms (Oestreicher-Singer and Zalmanson, 2013).

OTT websites, thus, have evolved, but, according to Oestreicher-Singer and Zalmanson (2013), they still put emphasis on the content rather than the social experience. OTT providers remain final destinations to watch video content, and film-based social experiences exist in silos that require consumers to switch and navigate between many different platforms. This results in a counter-intuitive and fragmented experience that limits film-based social experiences (Weide et al., 2011; Marie et al., 2011; Oestreicher-Singer and Zalmanson, 2013; Tryon, 2013).

2.2. Challenges for effective social multimedia experiences: The forgotten elements

In a social age characterised by the rise of social multimedia platforms (and corresponding changes in online behaviour), OTT video providers such as Netflix, Hulu, YouTube and Amazon are now facing the challenge of how to improve their business models. These providers are seeking more creative strategies to offer more engaging social experiences (Yan et al., 2013). However, as video consumption is their core business, moving from

experimenting with social tools to making these a core part of their services has various implications (Venturini, 2011; Crumlish and Malone, 2015).

Arguably, because the social media deployment introduces prevalent changes in OTT environment, one of the most complex challenges content providers will encounter when embracing social media or strategies for engaging with other social media sites is blending dynamic social media processes with traditional infrastructure (Crumlish, 2009; Porter, 2008; Kietzman et al., 2011; Venturini, 2011; Wollan, 2012), because what makes social media significant as a category is not technology – as most prominent features have been available for years – but, rather, socio-technical dynamics that unfold as individuals embrace the technology and use it to collaborate, share and socialise (Ellison and Boyd, 2013; Crumlish and Malone, 2015.).

Therefore, the present research confirmed, as have previous studies (e.g. Ackerman, 2000; Porter, 2008; Oestreicher-Singer and Zalmanson, 2013; Crumlish and Malone, 2015), that the biggest challenge for OTT providers is social, not technological. OTT services currently, on a functional level, are not designed to take advantage of social interactions, and users' need for explicit interaction, social enhancement and communication is largely ignored (Yan et al., 2013; Sang, 2014).

This gap is unlikely to disappear if researchers continue to fail to describe the social requirements of what contemporary film experiences should be and the services OTT providers have to offer (Dwyer, 2007). Only by exploring social media activity in OTT ecosystems can constraints be identified and a platform proposed that closes the aforementioned social-technical gap and supports the currently desired social behaviour of OTT service users (Dwyer, 2007; Porter, 2008; Crumlish and Malone, 2015). The next section describes this process in more detail.

3. Elements of a new platform for films: Methodological and practical issues

3.1. Categorisation of OTT services based on the social media honeycomb framework

The honeycomb model is a framework intended for companies interested in social media, and defines the social media activity with seven core functional traits (see Table 2.1, first column): identity, relationships, presence, sharing, reputation, conversations and groups

(Kietzmann et al., 2011; Ahn and Lee, 2015). These building blocks are, according to Kietzmann et al. (2011), constructs that help media companies make sense of how different levels of social media functionality can be configured.

Netflix, Amazon, YouTube and Hulu are allocating resources to offer more engaging social experiences through social media functions (Yan et al., 2013). These functionalities are based on the features and set of actions users can take in the media applications themselves (Dron, 2007; Porter, 2008; Dawot and Ibrahim, 2014). Therefore, an investigation into these OTT providers' socio-technical context in light of the honeycomb framework should unveil which elements support the applications' primary activity and which aspects of social media experiences have not been covered yet (Porter, 2008; Yan et al., 2013; Dawot and Ibrahim, 2014; Crumlish and Malone, 2015).

To describe the socio-technical context of these websites, we examined studies that mention social media and/or network features (Boyd and Ellison, 2007; Farzan et al., 2008; DiMicco et al., 2009; Kim et al., 2010; Rohani and Hock, 2010; Roy, 2010; Holtzblatt and Tierney, 2011; Tapiador and Carrera, 2012; Ellison and Boyd, 2013; Dawot and Ibrahim, 2014; Ahn and Lee, 2015). We then made a list of the specific features that can be found, or not, in OTT video services. Next, after signing up on each OTT website, we performed a set of actions and designated, by means of a researcher-made checklist, the features available, or not, under the corresponding social media block (see Table 2.1, first, second and third columns). The analysis and categorisation of core features were done between September and October 2015.[17]

To carry out these tasks, we conducted to on-site observations. This research methodology is, according to Porter (2008), one of the most effective ways to discover how a system functions. Contextual research involves researchers going out into users' environments to observe and gather first-hand knowledge of activities, operations and processes of systems on-site. This provides objective insights into how individuals currently perform activities on websites and what parts of those activities are not well-supported (Porter, 2008; Vu and Proctor, 2011).

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[17] It is important to underline that the present characterisation based on main features needs to be understood as ongoing because the age of social multimedia has sped up the rate of change in platforms that run multimedia applications (Naaman, 2012). Given this rapidly changing infrastructure, the site at the time of data collection is likely to be quite different a few months later. Features that a scholar examines in one year may have simply disappeared by the following year. Thus, two studies of a particular website that produce different findings may not be contradictory. They may actually have examined what are, in essence, two different socio-technical contexts (Ellison and Boyd, 2013).

Table 2. 1: Overview of streaming video services based on honeycomb social constructs

Building blocks and functionalities	Actions	Social features design	Netflix	Hulu	YouTube	Amazon
Identity: Ways individuals are uniquely identified in the system	Is there a profile page? Is there any functionality to introduce users' identity with clear and appropriate information to other users?	**Public and private profiles**			√	
Presence: Ways users know who is online, sharing the same space at the same time	Who is online, sharing the same space at the same time? Is there a presence indicator that conveys to the entire world or to a user's connections that this user is currently online and available for communication? Does the website include a user activity timeline or wall?	**Mechanism to display presence status**				
		Activity streams/friend's feed				
Relationship: Descriptions of how two users in the system are related or can relate to others	When another user account is found, can this user be added as a contact? How are users in the system related or able to relate to others? Does the site require confirmation from the other party (bidirectional) or not (unidirectional)?	**Mechanism to show friends of friends**				
		Bidirectional (with confirmation)				
		Unidirectional (without confirmation)			√	
Conversation: Resources for communication among users (synchronous and/or asynchronous).	How can users connect and interact? Is there any mechanism to send and receive online messages? Is real time communication between friends possible?	**Live chat**				
		Message board				
		Comments/reviews	√	√	√	√
Groups: Possibilities to form communities of interest, ideas or opinions	Can users form a community or sub-communities? Are these open to anyone (e.g. followers or subscribers) or those invited or is approval required (e.g. friends)?	**Approval required**				
		Open to anyone			√	
Reputation: Ways users know the status of other people in the system (e.g. whose taste can be trusted)	Is there a functioning reputation system with stable, persistent identities? Can users rate content? Can they classify video content quality and help other users decide to watch content or not? Can users identify other noteworthy members of the community?	**Ratings of user-generated content**			√	
		Lists			√	
		Comments/reviews			√	
Sharing: Ways things that are meaningful to users are shared (e.g. links and videos)	Can users contribute text comments or other types of basic content? Can they classify content quality and help other users decide to watch it or not? Are there ways for participants to convey their knowledge and opinions?	**Activity streams/friend's feed**				
		Comments/reviews	√	√	√	√
		Ratings	√		√	√
		Share buttons (e.g. Facebook button)	√	√	√	√
		Lists			√	

Source: Own elaboration.

This immersion not only uncovers unexpected needs, opportunities or challenges but also offers a means of re-evaluating assumptions about what users' needs actually are (Porter, 2008; Vu and Proctor, 2011).

Regarding the seven traits of the honeycomb model, the results highlight that no OTT video provider focuses on all elements. Rather, the core structure of these sites (see Table 2.1, columns 4, 5, 6 and 7) tends to concentrate on functions such as sharing (e.g. share buttons) and having asynchronous conversations through reply buttons for comments.

OTTs, while media-centric websites, do not value identity highly. User profiles are decentralised and depreciated as destinations, and users do not have opportunities to disclose their personal profile to others or the means to do any self-presentation. To these services, including YouTube, relationships hardly matter. 'Subscriber' is the type of connection used when the content is more important than a personal relationship (Kietzmann et al., 2011; Crumlish and Malone, 2015). The term is a popular case of one-way connection that does not require reciprocation; it is essentially a subscription to users' contributions within a system, which means that, when users follow or subscribe to another, they are only expressing their interest in the activity of the other user, not in the relationship itself (Tapiador and Carrera, 2012; Crumlish and Malone, 2015).

While the number of subscribers and/or YouTube number of views (e.g. a film uploaded by a user) allows users to identify some level of reputation through users' tastes, the users' reputation does not have an impact on social relationships. Since YouTube does not support a social connection that indicates an explicit relationship, the degree of proximity among its users is extremely low. In addition, although films are defined as social activities meant to be shared with friends (Tryon, 2013), these websites do not have a social structure that creates social circles and drives deeper user-to-user engagement. The only public visibility and interaction users can have is through reply buttons that allow them to submit new related content, such as text comments or reviews – in some cases through Facebook.

OTT providers also do not pay attention to the principles of sociability, as they have not embedded relevant items that enable social presence and direct conversation (see Dron, 2007). As of the current on-site observations, these applications have not developed to the point of facilitating private conversations among users, and no website supports private communication mechanisms (e.g. live chats or private messages) for self-

disclosure and social interaction (Ren et al., 2007). Any patterns of interaction through conversations mostly appear in the form of components of social media for public communication, such as comments and film reviews. In some cases, such as Netflix, this function even fails to display the identity of users and, consequently, to encourage interactions and communication among users (Yan et al., 2013; Crumlish and Malone, 2015). An activity timeline with a list of actions, which keeps users aware of the activities performed by their friends and gives them a sense of what is happening in the system, is also not included.

The present on-site observations provide support for the idea that OTT video providers still perceive social computing features as complementary rather than an integral part of their platforms' offerings (Dron, 2007; Wollan, 2012; Oestreicher-Singer and Zalmanson, 2013). In addition, although the old adage 'content is king' remains truer than ever, these providers appear to have forgotten that consumer experience rules in the digital age (Dobberstein et al., 2012; Oestreicher-Singer and Zalmanson, 2013; Viviez et al., 2014). Individuals use entertainment applications to do the same things they do in the real world: communicate, build relationships, gain respect, have fun and react to content (Porter, 2008; Kim et al., 2010; Oestreicher-Singer and Zalmanson, 2013; Yan et al., 2013; Salminen, 2014). The OTT film industry has clearly not fully grasped the implications of this reality, and, currently, there is a mismatch between what users require socially and what these pure players have to offer.

OTT providers, to support fully individuals' desire for exciting and effective film-based social experiences, need to build their interface services based on real-world social norms and consumers' expectations of what film experiences should be (Truong, 2009; Crumlish and Malone, 2015, Ericsson AB, 2016). Thus far, despite the affordances of social computing, OTT providers are missing the opportunity to create their own video-centric social networks by failing to integrate multiple individual profiles into communities. These applications need to provide more social functionalities that allow users to explore and engage other individuals with similar interests in films (Digitalsmiths, 2013; Oestreicher-Singer and Zalmanson, 2013; Yan et al., 2013).

3.2. Merging social computing with content (fusion phase of IT)

As content consumption becomes a social experience, value becomes dependent on social environments (Oestreicher-Singer and Zalmanson, 2013). The next step for OTT providers – especially new entrants – is, therefore, not merely to add a social layer to traditional content offerings but also to develop socially oriented applications that bring films and direct conversations closer together. This is needed because direct communication creates real-time experiences that are missing in these platforms and are fundamental to bringing users together in dynamic online social environments (Porter, 2008; Venturini, 2011; Weide et al., 2011; Oestreicher-Singer and Zalmanson, 2013; Yan et al., 2013). To do so, OTT providers should supply their users with social experiences based on shared content. This implies that users need to interact both with content and with fellow users through OTT video websites because shared experiences and meaning arise from films valued as belonging to or characteristic of particular groups (Bouman et al., 2007). This approach is content- and user-centric, positioning both users' personal experiences and content at the core of online services. This will create a shift in the role of the OTT content industry, making providers enablers of experiences rather than mere purveyors of content (Oestreicher-Singer and Zalmanson, 2013).

Although social networks and streaming media services have evolved independently, they are the key entertainment 'agora' of our time. The literature contains a few proposals that seek to merge social network concepts and features with OTT video services, taking advantage of the strengths of both systems (Marie et al., 2011; Hollywood Report, 2012; Lee and Garg, 2012; Oestreicher-Singer and Zalmanson, 2013).

According to the fusion view of IT (El Sawy, 2003; Oestreicher-Singer and Zalmanson, 2013), content and, therefore, content websites are inherently social, so content cannot be separated from social computing elements. As individuals are also inherently social, they derive great value from watching the same movies that others do (Elberse, 2008) and from having ongoing content-based social experiences in which individuals can fulfil different roles and form meaningful relationships (Porter, 2008; Oestreicher-Singer and Zalmanson, 2013). In this context, social networks' characteristics facilitate the development and recognition of individuals' social identification and provide OTTs with relationship opportunities. On these platforms, users can find others who share the same interests, and, by enabling socially relevant interactions, these applications can encourage creative participation and community formation around media content (Code and

Zaparyniuk, 2009; Ellison et al., 2011; Baruah, 2012; Narang, 2012; Herrero and Medina, 2013). In addition, when integrated into streaming film service, a social graph can make content spread more rapidly and be, due to communities' filtering properties, a good solution for optimising and refining recommendations (Girieud, 2010).

As such, a streaming film service based on a social network can be a powerful computational infrastructure capable of supporting consumer interactions not just with content but also with fellow users in the community. This makes social experiences central to these platforms and the core of OTT providers' digital business strategies (Breslin and Decker, 2007; Tian et al., 2010; Oestreicher-Singer and Zalmanson, 2013). The adoption of this strategy and its value proposition transforms the main role of OTTs from providing content to establishing users' content-related and IT-enabled social experiences, which can be termed 'social films' or 'social content'. The result will be a hybrid between content provider and virtual community business models (Weill and Vitale, 2001; Oestreicher-Singer and Zalmanson, 2013), which is, in essence, an SCN.

An SCN is defined as a multimedia system in which films are situated between individuals, acting as a connector between those pursuing sociality (Star and Griesemer, 1989; Engeström, 2005; Bouman et al., 2007; Weide et al., 2011). In a SCN, content is tightly intertwined with social features, and interactions around this content create highly personalised experiences for users (Weide et al., 2011). According to Breslin and Decker (2007), one way to develop film-centred sociality on the Internet is via individuals' actions around content they watch, create together, comment on or link to – or to which they add similar annotations. Thus, approaching sociality as film-centred is to suggest that when it becomes easy to create digital instances of the object, online services for networking about, through and around that object will also emerge (Engeström, 2005; Bouman et al., 2007). In this sense, social content refines the paradigm established by social networks, in which interactions with others are central and reasons for interacting with other users, including content interests, are secondary (Weide et al., 2011).

3.3. Key elements for holistic social experiences in an SCN

The framework proposed by Kietzmann et al. (2011), although a good starting point to analyse the social media activity, is not suitable to make the viewer a part of communal film experiences: the argument is the graphic ignores the 'Object' and the expansion of

object-centred environments that promote forms of sociality (Cetina, 1997; Wal, 2008; Benevenuto, 2009; Crumlish and Malone, 2015). Accordingly, the present study adopted a user content-oriented perspective that not only includes the 'Object' and 'Identity' as cornerstone components of sociality (Cetina, 1997; Wal, 2008) but also merges them with other active components. In this section, we introduce and discuss all these components as part of a holistic strategy (see Figure 2.1) that, implicitly or explicitly, trigger and expand users' social experience (Crumlish and Malone, 2015). Notably, contrary to the honeycomb framework, these elements are interdependent and cannot be used in isolation.
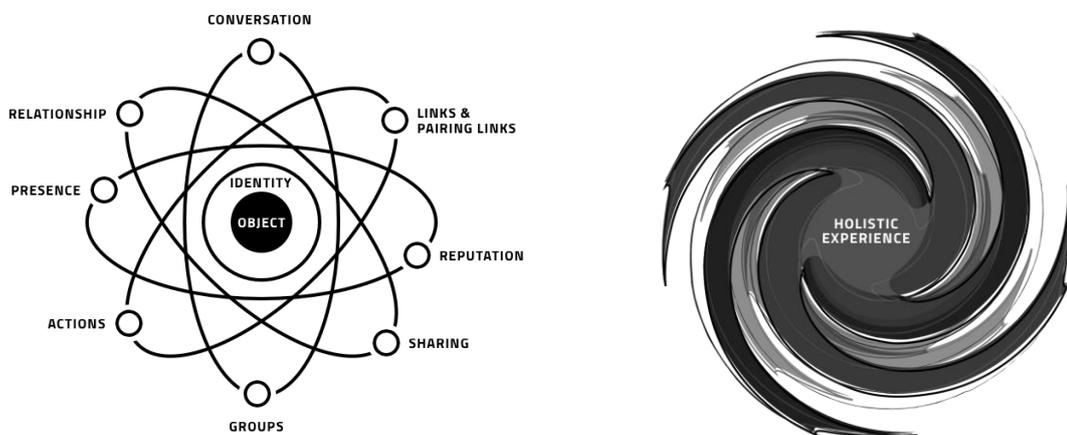
Figure 2. 1: **Fusion of honeycomb elements into social experiences in SCNs**

Source: Own elaboration.

Object (films)

Films are a common cultural currency in contemporary society (DiMaggio, 1987; Lizardo, 2006; Tryon, 2013). Therefore, they are conceptualised here as the core of SCNs. Although, presumably, most people will visit SCNs because of the films themselves, some might also visit the platform for the purpose of social interaction. Interactions, then, are a spillover effect. However, in some cases, this secondary motive can become a more powerful motive for visiting the platform because the consumption of films in a SCN gives individuals something to talk about and facilitates social intercourse by fostering ties that lead to social bridging (DiMaggio, 1987; Salminen, 2014).

In this way, films are engines of socially networked experiences and the content around which interactions and conversations happen (Simon, 2010; Crumlish and Malone, 2015). Thus, SCNs' interface needs to provide social functions and emphasise the social aspect of content consumption – the creation and enhancement of relationships – by gathering, at centre stage, both content and identities. This allows individuals to focus their attention on a third thing rather than on each other, making interpersonal engagement more comfortable (Simon, 2010; Oestreicher-Singer and Zalmanson, 2013).

Identity

SCNs require that users be unequivocally identified, as the focus of object-centred sociality is on individuals being social around films (Wal, 2008; Kietzmann et al., 2011; Crumlish and Malone, 2015). As in any real world communities or other social groups, SCNs must provide mechanisms that allow users to build a clear social identity or construct relevant working self-concepts (Showers and Zeigler-Hill, 2012; Crumlish and Malone, 2015). Often identity in OTTs is built on basic profile information (e.g. name or username), but, in SCNs, identity is augmented through the inclusion of higher levels of social information (e.g. cultural identities such as avid fan of world films). This portrays individuals' projection in the social world (Valkenburg et al., 2005; Kietzmann et al., 2011).

This social identity is defined as part of individuals' self-concept, which derives from their understanding of their membership in social groups (Tajfel, 1978). To identify with any given group, individuals look for similarities between members and themselves (Code and Zaparyniuk, 2009). Consequently, if individuals perceive greater similarities with other members, they feel a greater sense of belonging (Wilkinson, 2008; Lampe et al., 2010). In this way, social identity is a key element linking individuals to their social group (Tajfel, 1974, 1981) because social categorisation (i.e. groups) influences people's perception of others and themselves (Tajfel, 1974, 1981). As individuals' social identities evolve within social groups, these identities also facilitate the alignment or differentiation of individuals from the same group. This alignment or differentiation reaffirms individuals' social identity. Thus, Identity, being at the core of SCNs plays an important role. If there are clear identities, then individuals can form links with other users through these identities.

Previous studies have concluded that individuals have a greater tendency to associate, bond and interact with others when they perceive similarities in preferences, attitudes, tastes and so on (McPherson et al., 2001; Ren et al., 2007; Bisgin et al., 2012). Therefore, in this context, films can be considered the reason why individuals affiliate with specific others and not just anyone (Engeström, 2005; Porter, 2008; Simon, 2010). The probability that two people will interact is driven by their similar tastes (Lizardo, 2006). A taste for a particular genre of films or set of films is a form of ritual identification and a way of constructing social relations. It helps to establish networks of trust relationships that facilitate group mobilisation (DiMaggio, 1987; Lizardo, 2006; Crumlish and Malone, 2015). Interaction through this positive feedback loop, in turn, increases cultural similarities as individuals exchange their stock of knowledge about films with one another (Lizardo, 2006; Crumlish and Malone, 2015).

Links and pairing links

Besides the collection of content, user profiles and relationships between them, SCNs are also composed of links. Connections among humans make them bond, thus, the public display of connections is a crucial component of SCNs and a core element of these websites' social experiences (Crumlish and Malone, 2015). Users' links, along with their profiles, need to be visible to those who visit users' accounts – with at least some level of information without consent from the link target. In this way, users are able to explore the social network by following user-to-user links, browsing the profile information available and connecting through links based on their interest in a specific film or sets of films. Users can also search each other's generated content (Mislove et al., 2007) such as reviews. These links connect identities, or profiles, in this context, that contain links to each friend's profile, thereby enabling viewers to traverse the network graph by clicking through friends' lists and helping users to make friends with others (Boyd and Ellison, 2007; Crumlish and Malone, 2015).

Presence

Another fundamental component in SCNs is the visibility of system status or resources that allow users to know whether certain identities are online (e.g. online presence indicators), sharing the same space at the same time (Smith, 2007; Kietzmann et al., 2011;

Crumlish and Malone, 2015). Attachment in SCNs increases if members have a sense of virtual co-presence or a subjective feeling of being together with others in a virtual environment (Slater et al., 2000). In addition to communication channels (e.g. chat), awareness tools (e.g. activity streams or friends' feeds) showing who is currently online and what they are doing may help individuals gain and maintain a sense of others and their habits (Ren et al., 2007; Crumlish and Malone, 2015).

Actions

A large part of online film experiences in SCNs involve actions. Actions always include identities and objects (i.e. films) since actions are tied to the individuals who are taking action and linked to content around which users are taking action (Wal, 2008; Crumlish and Malone, 2015). These actions are voluntarily developed expressions of individuals' understanding, and they can take the form of ratings, reviews, comments and asynchronous and synchronous conversations, such as messaging or real-time conversations (Wal, 2008; Mckenzie et al., 2012). Although users may select which actions to share, SCNs need to offer mechanisms to stimulate individuals to share and trust each other's information because, when members have intensive interactions and trust one another, they tend to share reliable knowledge (Chan and Chuang, 2011; Crumlish and Malone, 2015). Just by being involved, users can create portraits of the self and an identity within the system with which others can interact (Crumlish and Malone, 2015).

Sharing

Individuals form communities for various reasons, including the mutual obligation of sharing particular interests or experiences (Chang and Chuang, 2011). The proposed model assumes that users in SCNs are not just searching for films to watch but also attempting to develop relationships and a sense of belonging (Chiu et al., 2006; Berki and Jäkälä, 2010). Hence, an engagement strategy would be to make users responsible for producing much of the information available (Flanagin et al., 2013; Crumlish and Malone, 2015).

SCNs can only be formed and sustained through the participation of members and their willingness to spend time and effort creating and exchanging user-generated content

(Chen and Hung, 2010; Chang and Chuang, 2011; Li et al., 2014). Sharing behaviour in this context is based on individuals' confidence that they can provide knowledge valuable to others. Users are motivated by their perception of what others (i.e. friends) would like to see (Porter, 2008; Bernstein et al., 2010; Chen and Hung, 2010). When individuals see themselves as representatives of a social group, they often believe that things that are of value to them will also be of value to other group members (Flanagin et al., 2013).

Indeed, salient group identity has been found to motivate information contribution in a variety of online contexts. For example, users are more likely to rate or review a movie when this is believed to be valuable to others who like the same movie genres as the rater does (Rashid et al., 2006). Similarly, individuals are more likely to contribute to online ratings systems when their group identification with other contributors is highlighted and they are under the impression that their contributions will benefit ingroup members (Flanagin et al., 2013). Therefore, it follows that social sharing in SCNs is of high-quality and personalised: the quality is vetted by individuals that users trust, and personalisation is implicit when users' groups use the notion of those users' interests or tastes to forward, for example, links to films (Bernstein et al., 2010).

Reputation

Individuals participating in SCNs expect to develop a reputation and hope to gain insights into the reputations of others (Kietzmann et al., 2011; Crumlish and Malone, 2015). Reputation can have different meanings, and, in most cases, this is a matter of trust. However, in the context of SCNs, reputation refers not only to users but also to their tastes. Taste has a real social utility because it represents a way of knowing what relationships need to be constructed (DiMaggio, 1987; Liu, 2007). Since purely mechanical tools are not yet good at determining highly qualitative criteria of tastes (Kietzmann, et al., 2011), users' tastes in an SCN environment are deduced directly by the information they enter about preferences or based on their behaviour. If users' profiles are assumed to give a true representation of these individuals, reputation (cf. identity) focused on taste can be based on virtual materials that compose taste statements exhibited in profiles (e.g. lists of films users watch, rate, review and approve).

When observed at a high level of abstraction, the rich meanings found within virtual cycles of actions and consumption imply deeper patterns of culture and taste statements

(Liu, 2007; Liu et al., 2009; Crumlish and Malone, 2015). In fact, in a culture of plenitude, individuals' identities can primarily be described as the sum total of what they like and consume (Liu et al., 2009). Accordingly, taste statements need to be disclosed because the exchange of personally revealing information is both a cause and consequence of interpersonal attraction (Ren et al., 2007, 2012). Individuals not only like others about whom they know more but also like others to whom they reveal more (Collins and Miller, 1994). Accordingly, members of online communities are more likely to form relationships if they have opportunities to engage in self-disclosure and learn personal details about each other (Ren et al., 2007, 2012).

Relationship

Having a group of users to hang out, communicate and participate with is key to successful social film experiences (Crumlish and Malone, 2015). Since the focus is on meaningful relationships through reputation (cf. reputation), relationships between identities are always intended and regulated, which means they cannot exist unless they are reciprocated (Wal, 2008; Hansen et al., 2010; Kietzmann et al., 2011). Users must send requests to connect with desired individuals and start relationships if the desired person accepts the friend request. Ideally, users have to develop a relationship of taste (cf. reputation) before adding them to the category of friends.

These bidirectional relationships are attached to privacy and permissions. For example, when both users accept the relationship, they are allowed to chat (Tapiador and Carrera, 2012). The way to establish relationships in SCNs needs to be facilitated through links that connect actions to identities and through the visible and browsable relationships of each friend's profile (Goldbeck, 2007; Musial and Kazienko, 2013). With profiles just a click away, making requests and befriending other similar users is extremely easy.

Groups

Attachment to groups is one of the more straightforward reasons why individuals participate online (Porter, 2008). Given that communities are built on a person's sense of belonging and yearning to belong (Shaffer and Anundsen; 1993, Rhode and Shaffer, 2003; Dasgupta, 2010), it is likely that users will gather in groups of shared tastes in which these drive friendships (Dietz, 2009). The more social a content network becomes

the bigger the group of friends and profiles available (Kietzmman et al., 2011). Consequently, subgroups are extremely likely to form (Bos et al., 2009).

However, accordingly to Dunbar (1992), individuals have a cognitive limit that restricts the number of stable social relationships they can have to about 150. These findings suggest that it does not matter how many friends users accept into their online community. The number of individuals users actually interact with will stay constant (Mazie, 2014). Social media platforms have recognised that many communities grow well beyond this number and, for this reason, offer a few categories of groups that allow users to manage their memberships. According to Kietzmman et al. (2011), these choices are, nonetheless, highly contextual.

The present study indicates that SCNs should not allow users to build group hierarchies beyond their inner circle for four reasons. First, permissions management is inherently difficult (Kietzmman et al., 2011). Second, media consumers prefer and seek films that refer to the social groups to which they belong (Trepte, 2006). Third, researchers argue that individuals are most strongly influenced by the members of their primary groups: people with whom they interact with frequently (Frank, 1995). Last, maintaining connections with an ever-widening network degrades the quality of interactions in users' inner circles (Konnikova, 2014).

Conversation

Conversations make film experiences social (DiMaggio, 1987; Crumlish and Malone, 2015). In addition, in conversations, users will come to the point (cf. reputation) that they want more formal relationships in order to have more focused interactions (DiMaggio 1987; Wal, 2008). As users entering into conversations seek to share collective wisdom and establish co-membership, SCNs need to facilitate exchanges of knowledge with others endowed with similar tastes (DiMaggio 1987; Holt, 1997; Lizardo, 2006). It is, thus, critical to add systems that support synchronous live conversations for more intimate dialogues and asynchronous features that allow time ordered annotations (Wal, 2008; Ellison and Boyd, 2013; Crumlish and Malone, 2015).

By lowering the barriers to communication and enhancing sharing activities, SCNs become not just a content provider but also a communication platform that facilitates the display of identity information and enables like-minded individuals to easily discern their

common ground. This helps users cultivate socially relevant interactions and develop strong relationships and, finally, reshape the type of network that film consumers are able to build and support (Ellison et al., 2011; Ellison and Boyd, 2013).

4. Describing a social (to the core) content network: The architecture of Avids

Following the line of reasoning described in the above sections, we describe below an SCN prototype that reflects the current state of our research, including in its architecture all key functions and features needed to pursue film-centred sociality. This prototype illustrates the design motives that guided the development of the Avids platform and strategies for making it more social and engaging for everyone interested in films.

From a narrower perspective, we focused this hybrid multimedia platform on the three basic elements of user, content and interaction. Two important features need to be noted. First, users actively participate in generation and consumption processes. Second, interaction is a generalised principle, which consists of user–user relationships, content–content similarities and user–content social interactions (Sang, 2014).

The content and features proposed for this prototype allow members of the Avids community to stream films (i.e. consume or watch) and upload two kinds of data: text files (e.g. comments and reviews) and pictures for their private page (i.e. profile). These appear in public spaces and ensure users are perceived by other users on the service (Crumlish and Malone, 2015).

Personal pages (see Figure 2.2) are the main interface in the community. As some authors argue (e.g. Liu et al., 2009; Crumlish and Malone, 2015), central profiles are still a goldmine of information about individuals and socialisation. Thus, as Figure 2.2 shows, we provide a self-descriptive, free-text user representation that allows user community members to express tastes and build goal-relevant versions of themselves (Bouman, 2007; Liu, et al., 2009; Showers and Zeigler-Hill, 2012). In texts, users can also provide demographic details and lists of cultural interests. Due to privacy issues not all information of a profile is shown unless the parties involved are already connected, namely, friends.

avids

8   MARIA

Social Activity

Mary Jane is following
Tasha Barton

RIGHT NOW   **5 APPROVED**

Emanuel Grant reviewed
Enemy (Denis Villeneuve)

10 MIN. AGO   **59 APPROVED**

Emanuel Grant is watching
Her (Spike Jonze)

1 DAY AGO   **183 APPROVED**

Tasha Barton approved
John Smith Status

4 DAYS AGO   **2 APPROVED**

John Smith is watching
1984 (Michael Radford)

Conversations

John Smith
(Last Watched: 1984)

Emanuel Grant
(Last Watched: Her)

Online Friends

Mary Jane
(Watching: Blue Ruin)

John Smith
(Last Watched: 1984)

Tasha Barton
(Watching: Detachment)

Maria Flynn

United Kingdom, Joined January 2015

153 movies watched

26 friends

Hi! I'm Maria and I love to watch movies. I'm currently attending cinema classes in a university in London. Hopefully one day my movies are the ones you'll be seeing in here!

You can also find me here:

Figure 2. 2: Users' interface (level 1)   **Figure 2. 3: Users' interface (level 2)**

Source: Avids website.

Given that the Avids platform also focuses on relationship building, users' profiles are designed to show, through a chain of friend-of-friend information about who are users' friends in the network (see Figure 2.2, level 1). This referral system helps members find

others with similar interests in films and provide immersion peer community. A mechanism to search connections is also available.

Users have control over whom to add to the friends' list, and are able to configure their social recommendations by having the option to choose from whom they want to receive advice. The goal of this initiative is to allow users to organise and run their own community recommendation system – the first step toward optimising video-on-demand suggestions by using social graphs. This means that users can receive film suggestions from contacts who are part of their pairing links. Most likely, film suggestions will be personalised and both more relevant and more convincing than suggestions made by just any other user (Girieud, 2010; Brown, 2013; Yan et al., 2013).[18]

The users' interface (see Figure 2.3, level 2 above) also includes three elements: social activity streams, conversations and presence. By default, to respect users' privacy, their presence indicator or status is only available to those with whom they are reciprocally connected. A growing body of evidence shows that mere social awareness that others are participating and communicating directly can increase retention (Tausczik et al., 2014). The rationale is that both social awareness and communication help individuals form social connections and attachments to each other or groups. This, in turn, keeps them engaged and committed to the larger website network (Tausczik et al., 2014).

Livestream activities aggregate and display the latest activities of friends, such as new reviews shared, films added to a watchlist or approved elements left by contributors for all to see. By browsing this information, users can keep informed about who is consuming which content (see Figure 2.4) or how popular different films are. The activity status also describes the number of films watched, recently seen and recently commented. As noted previously, when observed from a high level of abstraction, SCN profile's lists imply taste statements, and the rich meanings concentrated in profile activities also imply deeper patterns of taste (Liu et al., 2009).

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[18] Indeed, recommendations made by friends are more effective because they are a better fit for users. These endorsements are based on a personal knowledge of users' tastes, and, these recommendations also have a stronger persuasive power, since friends are considered to be an especially reliable source of information whose opinions users can trust (Girieud, 2010; Brown, 2013; Yan et al., 2013).
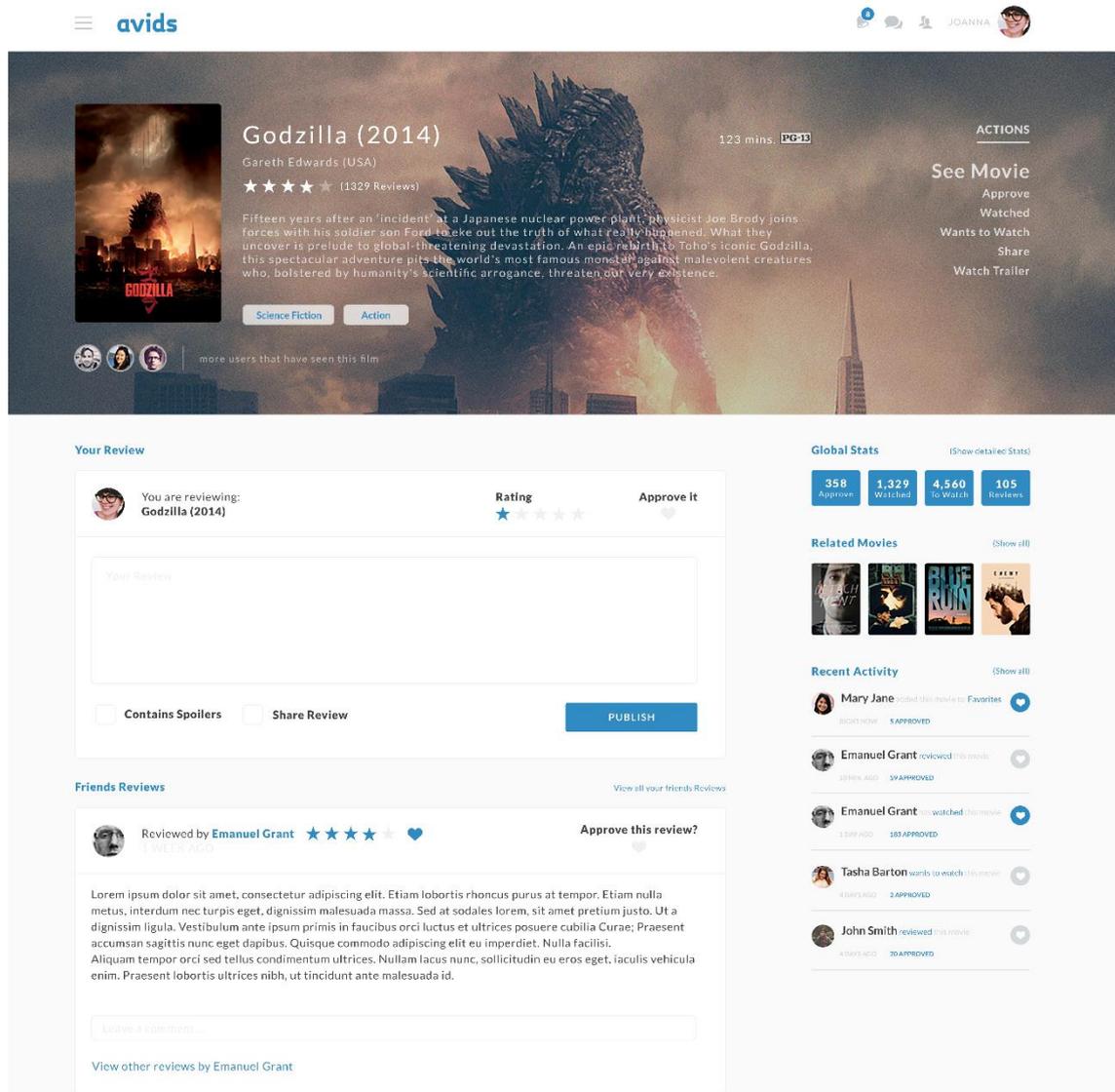
Figure 2. 4: **Example of a film's homepage**
Source: Avids website

Since a taste community such as Avids articulates identities according to certain values and concepts that unite or divide its membership, the platform encourages members to share their film consumption, preferences and opinions as a way to strengthen their identity (see Figure 4 above). Cultural consumption not only echoes but also actively reinforces who users can be (Csikszentmihalyi and Rochberg-Halton, 1981; Liu, 2007). By utilising the SCN lists to exhibit their tastes, users can display their status and distinctive traits to an audience comprised of friends, potential friends and the overall community.

Dwyer et al. (2007) state that the main motivation for social networking is communicating and maintaining relationships, whereas McKenna et al. (2002) observe that, in online

communities, members' frequency of interaction with others largely determines the extent to which they build relationships with one another. Taking into account both relationships and interactions, the Avids platform combines social and participatory functionalities and enables multiple forms of communication for cross-boundary interactions among different users. Conversation and sharing tools are visible mainly through users' homepages (see Figure 2.3, level 2 above), and they include online communication services that allow users to share virtual elements or even engage in real-time conversations. More exchanges among community members, through private messages, provide opportunities for members to build social connections and create both liking and trust (Ren et al., 2007).

Conversation needs are also addressed via the chat resource, with which users can talk directly to other users who are online in the system. Directed communication plays the expected role of bonding social capital. Messages exchanged between friends are both a product of friendships and a means of facilitating and maintaining these friendships (Burke et al., 2010).

Film homepages (see Figure 4 above), besides being resources for watching video content (i.e. embedded video player), support personalised activities and other forms of social interaction. More specifically, given that enabling ratings and comments allows users to influence other users' navigation and consumption decisions (Oestreicher-Singer and Zalmanson, 2013), viewers are called to action by interface elements to classify films by rating them and/or approving them as public statements of endorsement. Users can also give explicit recommendations by commenting or reviewing films, among other options. Each film's individual page also includes social sharing data that provide insights into taste patterns (e.g. other users who saw the film or gave the film a 'thumbs-up' verdict) and behavioural clickstream data (e.g. global statistics) that help to assess films' popularity or categorise their content. This is compatible with Shamma et al.'s (2011) finding that the way a film is consumed, interacted with and commented on is indicative of the nature of its content.

5. Conclusions

Previous researchers have asserted that the world currently is marked by individualisation and that individuals are using digital technology as a tool for re-introducing sociality into

their lives. In some consumption contexts, technology is already creating new possibilities for reintegration and maintenance of social relations (Cetina, 1997; Adolf and Deicke, 2015; Ericsson AB, 2016). The idea of objectualization discussed in this paper and that points towards films as relationship partners in embedded environments (Cetina, 1997; Bouman et al., 2007; Lee and Garg, 2011; Ericsson AB, 2016), does not neglect that certain forms of relatedness with and through films have always been available. What this research maintains is that, in an era of online films, OTT providers' core concepts of sociality need to include the forms proposed in this paper for two reasons. First, individuals who see films as sources of the self and relational intimacy are still looking to connect socially – or be socially integrated – through films (Cetina, 1997, 2009; Rosenblatt, 2011; Ericsson AB, 2016). Second, sociality and the ability to foster relationships will continue to guide individuals' film consumption (Ericsson AB, 2016).

Film consumers have always been passionate about sharing, discussing and learning about what their social peers are watching. When the experience is social and shared it gains authenticity (Ericsson AB, 2016). This alone explains the importance of community-building in content websites and the reason the role of OTT applications needs to be more than just encouraging users to stream films (Oestreicher-Singer and Zalmanson, 2013; Yan et al., 2013; Ericsson, 2016). This is also why OTT websites need to have a strong social component and an entire social context, to compensate for the authenticity that the technology itself lacks (Crumlish and Malone, 2015; Ericsson, 2016).

Although these providers are becoming more social media equivalent, the present research shows that OTT platforms lack the synchronicity of shared solid experiences. These websites are failing to take into account the role of social computing in the creation and enhancement of on-site relationships (Ellison and Boyd, 2013; Oestreicher-Singer and Zalmanson, 2013; Yan et al., 2013). Consequently, these providers need to shift their focus from delivering disconnected and fragmented social experiences to offering entertainment applications that connect well-established user identities on-site and ensure film social experiences never stop (Yan et al., 2013; Crumlish and Malone, 2015; Ericsson, 2016). Accordingly, and as result of the current change-process where the continuing individualisation is converging with the emergence of networks that re-integrate individual media users (Adolf and Deicke, 2015), this research suggests that social networks and OTT streaming services are mutually constitutive and they should be

completely fused into a unified platform that prevents users from switching to other websites (Oestreicher-Singer and Zalmanson, 2013; Crumlish and Malone, 2015).

This paper's most valuable contribution is the development of an innovative SCN model that reaches beyond more rooted functionality-based approaches in the development of OTT video sites and focuses on choices related to sociality. The result is a unified system in which social media settings are embedded in every functional area of the platform's architecture. This triggers and supports social behaviours that meet users' expectations of what contemporary film experiences should be and that are not yet possible in traditional streaming sources (Oestreicher-Singer and Zalmanson, 2013; Chen and Lin, 2014; Crumlish and Malone, 2015; Ericsson AB, 2015).

The proposed framework and SCN model are a valuable contribution to the literature since they can both serve as reference points for future research and provide recommendations for OTT companies that are reconsidering their social dimension or addressing issues related to sociality. These can now assess ideal attributes and gain insights into ways to provide holistic social media strategies that allow users to explore platforms, interact with other users in real time or even engage deeply in social relationships.

Since the concept of sociality based on online films is somewhat new, we encourage media entrepreneurs to seize this innovative, value-creating opportunity and push further to implement the idea of film-based social integration. Further research on social behaviours resulting from SCNs' dynamics is needed, as well as assessments of which practices can develop based on the affordances of these networks' underlying social structure. Besides being an interesting topic of research, a clearer understanding of how users consume, interact and organise their relationships could be the basis on which to develop new SCNs that make social experiences even more authentic.

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ESSAY 3

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Determinants of users' acceptance of a social content network: the case of film lovers

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Determinants of users' acceptance of a social content network: the case of film lovers

Abstract

The expansion of the Over-The-Top (OTT) film market, the growing presence of online fragmented film audiences and the evolution of Internet technologies are leading to the development of a new wave of film services that aims to merge the entertainment of online films and the mutual relationships between film lovers, emphasizing the sociability between them. However, extremely little information currently exists on the factors associated with users' acceptance of these new multimedia systems. Researchers are now recognizing that a broader social component that incorporates the pleasure that film lovers get from interacting and associating through the system adds a contributing dimension in the adoption and acceptance of OTT film systems. Grounded on IS theories of technology acceptance, self-determination theory, uses and gratifications theory and on theories of social interaction, the present study develops and empirically tests a comprehensive framework to examine the constructs perceived interactivity, sociality, and perceived enjoyment in film lovers' intention to participate in social content networks (SCNs). Data from a sample of 479 film lovers from around the world were analysed using partial least squares structural equation modelling. The results reveal that perceived sociality is a stronger determinant of film lovers' enjoyment and confirm that the hedonic social component of the proposed model can be used to predict film lovers' acceptance of SCNs.

Keywords: Social content networks; Intention to use; Intention to participate; Technology acceptance model; Hedonism; Partial least squares structural equation modelling

1. Introduction

Films have entered a new era as individuals around the world are embracing on-demand films delivered by over-the-top (OTT) video providers (Gubbins, 2014; Viviez et al., 2014; Lou et al., 2016). The ubiquitous use of OTT video and personal digital devices shows that viewing experiences are migrating to the Web, which is encouraging increasingly individualised forms of film reception (Behlil, 2005; Tryon, 2013; Adolf and Deicke, 2015; Ericsson AB, 2016).

As film audiences continue to incorporate new media technologies into their routines and narrow the focus of their consumption to satisfy their individualised interests and needs, many observers are convinced OTT video will further erode the communal aspects of film viewing, worrying that this will lead to further social isolation. This would mean that increasing numbers of film lovers will experience a life of alienation if they cannot find ways to develop social relationships with their peers (Tewksbury, 2005; Napoli, 2011; Tryon, 2013; Helles et al., 2015; Ward, 2016; Wiard and Domingo, 2016).

In addition, the rapid adoption of new media applications and an overabundance of films are accelerating the separation of audience groups and making different film preferences more visible (Behlil, 2005; Hull et al., 2011; Cha, 2013; Alexander, 2014; Amobi, 2014). These trends are intensifying competition and opening a window of opportunity for new players (i.e. specialised in niche content) to enter the market of online video services (Tewksbury, 2005; Gassner, 2011; Tryon, 2013; Akgun, 2014; Viviez et al., 2014; Wiard and Domingo, 2016).

As the number of OTT providers continues to grow and compete for users' attention, how to make their experiences more satisfying has become a critical question. To retain current users and attract new ones, OTT providers are transforming their websites and integrating social media capabilities to facilitate more interactive film experiences (Burgess and Green, 2013; Juhlin et al., 2013; Yan et al., 2013; Akgun, 2014; Hu et al., 2016). While recent research has recognised that film sites have intensified their offerings with a broader range of social media tools, these studies have shown that these providers are generally quite rigid in their support of social patterns. Social interactivity is still weak as these websites lack the necessary innovative tools to allow users to socialise and establish close (i.e. personal) relationships (see Zengyan et al. [2009], Rosenblatt [2011], Oestreicher-Singer and Zalmanson [2013], Liu et al. [2016] and Governo et al. [2017]).

Films can be different things to different audiences. While for most consumers watching films is enough, for others the pleasure they derive from these experiences also comes from socialising (Di Foggia, 2013; Wiard and Domingo, 2016). For cinephiles or 'passionate spectators', film experiences are not just habitually watching hundreds of films but also having a strong connection with films and the individuals who share similar tastes (Di Foggia, 2013; Tryon, 2013; Menarini and Tralli, 2016). This is often described as a relation of love and a deep passion for sharing, reading, discussing and writing in some form about films (Valck and Hagener, 2005; Balcerzak and Sperb, 2009; Christie, 2012; Di Foggia, 2012; Jullier and Leveratto, 2012).

Because few websites provide a space for film lovers to satisfy their need to discuss films, some researchers argue that 'a real sense of community' is missing online (see Behlil [2005], Hope [2013] and Governo et al. [2017]). Film-related communal experiences are dispersed through a variety of online silos, which requires users to migrate across cyberspace to various OTT websites to watch films and then switch to social platforms to 'network' with other film lovers and get into passionate debates about films (Weide et al., 2011; Oestreicher-Singer and Zalmanson, 2013; Tryon, 2013; Zolkepli and Kamazulzaman, 2015; Shambu, 2016). In particular, it is stressed there is a vacuum where serious film lovers do not have a 'home' in which they can exclusively watch films and interact with others users in the standards forms of social networking, including creating meaningful relationships.

The cinephilia has transformed itself and currently it is already practiced exclusively online by a new generation of film lovers that feeds itself through Internet technology (IT) (Behlil, 2005; Tryon, 2013; Wiard and Domingo, 2016). Cinephiles are also social beings who desire association and acceptance and often crave social interactions with other film lovers (Porter, 2008; Junglas et al., 2013; Tryon, 2013). However, the cinephile sensibility and love for films is often considered peculiar by real-life acquaintances. This complicates the process of finding individuals who also like to discuss films since the 'average' consumer is not interested in becoming a cinephile (Behlil, 2005; Shambu, 2016).

With a larger concentration of fragmented audiences going online to consume films and share social practises, values and discourses, what used to be a minority taste in cinephiles surroundings is no longer a minority in the Internet context (Behlil, 2005; Shambu, 2016; Wiard and Domingo, 2016). Thus, by bringing together these individuals, the Web has

opened up possibilities for social interactions and sociality with film lovers from around the world. This means that film communities may become defined less by geography and more by shared interests in particular film genres (Knorr Cetina, 1997; Mckenna et al., 2002; Dholakia et al., 2004; Behlil, 2005; Jullier and Leveratto, 2012; Junglas et al., 2013; Tryon, 2013; Bernstein, 2016; Shambu, 2016; Wiard and Domingo, 2016). A taste for a specific genre (e.g. 'world films') can be the common thread that binds individuals who see films as sources of the self and relational intimacy into a wider network of film lovers (DiMaggio, 1987; Lizardo, 2006; Tryon, 2013; Crumlish and Malone, 2015).

Although cinephiles' desire to connect and group with other film lovers is becoming a more significant phenomenon, its importance has been overlooked by OTT video sites. Thus, many researchers have argued for the importance of a renewed use of films to stimulate searches for relationship partners in OTT video environments. Providers need to develop social content networks (SCNs) that reach beyond functionality-based approaches and focus on tools related to sociality (Knorr Cetina, 1997; Behlil, 2005; Bouman et al., 2008; Harboe et al., 2008; Akgun, 2014; Liu at al., 2016; Governo et al., 2017).

The present study posited that sociality around films, which incorporates a hedonic element not available in traditional OTT film websites, plays a determinant role in predicting intentions to use SCNs (see Junglas et al. [2013]). However, since SCNs are an innovation, their social affordances are still not considered valuable by individuals in social systems and are not included in current IS usage models. Hence, an evidence-based is needed to validate which social capabilities are crucial in determining whether film lovers will use the service or not.

In this context, the present study had two objectives: to measure film lovers' intentions to adopt SCNs and to identify the main drivers that influence these individuals' decisions or that contribute most strongly towards intentions to use SCNs. In particular, this research focused on the pleasure users get from interacting and socialising with others within systems and is related to other research that sought to identify the drivers of user acceptance for new media technologies. (Papies and Clement, 2008; Junglas et al., 2013). The present research proposed an integrated model that identifies key factors affecting film lovers' intentions to participate in SCNs.

To measure individuals' willingness to use a new SCN service, we gathered a sample of 479 respondents who already had experience with online films and cinephilia practises

and who were most likely to adopt SCN services. We then distributed a purpose-built online survey to the sample to assess the respondents' behavioural intentions. The survey collected background information about these film lovers' demographics and lifestyles and enabled us to evaluate hypothetical SCN features' impact on potential users' intentions to adopt these services.

The proposed model included both reflective and formative constructs, and the need to deal with multicollinearity among independent variables meant that a distribution-free estimation method had to be used to test our hypotheses. We thus opted to apply partial least squares structural equation modelling (PLS-SEM) instead of covariance-based SEM (Hair et al., 2011), as the former offers more robust results.

The present paper is organised as follows. The next section provides a comprehensive definition of SCNs, followed by a literature review focused on the constructs used to predict users' acceptance of these systems. The methodology is described in section three. Section four presents the empirical results. In the conclusion, we discuss the study's main results, managerial implications and limitations, as well as suggesting paths for future research.

2. Theoretical background and conceptual framework

2.1. Main concepts

2.1.1. SCN systems

Research on SCNs is in an early stage as this is an innovative media context in terms of goals, features and modes of interaction. Thus, a conceptual understanding of these systems needs to be established, including distinguishing it from traditional OTT video sites. This overview is important to put the adoption constructs discussed below in an appropriate context.

SCNs are highly interactive socio-technical systems that offer an enjoyment-oriented environment in which film lovers can watch films and establish relationships to communicate and exchange information and knowledge about films (Chesney, 2006; Bouman and Hoogenboom, 2009; Shipps and Philips, 2013; Hu et al., 2016; Governo et al., 2017). These systems emerged in response to increasing individualised film reception and the evident social need for interpersonal connection and belongingness not met by

OTT media applications (Governo et al., 2017). Proponents of SCNs believe that watching films online can be a highly social event in which films offer shared experiences that serve as the basis of socialisation and group formation (Bouman et al., 2008; Harboe et al., 2008; Liu et al., 2016; Governo et al., 2017).

Thus, in the OTT media context, SCNs are not just a simple OTT video service intended for passive consumption but instead highly evolved affinity and communication spaces. These merge the entertainment function of online films with mutual relationships between film lovers, thereby emphasising their sociability (see Governo et al. [2017]). Compared with traditional OTTs, SCNs provide the convenience of incorporating not only the individual pleasure users get from using the system to watch and interact with content, but also a pleasure users get from interacting, exchanging knowledge, and grouping with others in an immersive social context (Bouman et al., 2008; Junglas et al., 2013; Alassiri et al., 2014; Agag and El-Masry, 2016).

While standard OTTs providers (e.g. Netflix, Hulu and Amazon) are more focused on content and less in building a network to promote interactions around it, SCNs' premise is to mimic the dynamics of real film-based social experiences. These mix cinephilia with social media rules and foster a film culture that promotes social grouping – without the need to migrate in cyberspace to other social media platforms. SCNs may therefore change how film lovers experience films, transforming this isolated viewing experiences into socially engaging experiences.

Since SCNs reflect the view that cinephiles need social engagement to reinforce their wellbeing, we posited that potential users will be influenced by social and interactive aspects of the social environment and personal relationships (Shipps and Philips, 2013). Thus, the question arises of whether film lovers' perceptions of SCNs as more interactive than conventional OTT video sites and as offering opportunities to create and sustain meaningful film-related relationships will influence these individuals to use SCN systems.

2.1.2 Concept of sociality in SCNs

Sociability is often considered a feature of environments that support 'a state of being sociable', in which members find pleasure in interacting with each other to fulfil community-shared purposes through technology-enabled spaces. Sociality is, therefore,

akin to sociability (Preece, 2001; Bouman et al., 2008; Phang et al., 2009; Gao et al., 2010; Junglas et al., 2013). However, in a SCN context, the sociality concept focuses on how film lovers relate to each other to organize their social practices and construe their identities, with the common purpose (e.g., sharing knowledge and the film social experience) being highlighted in sociability. In addition, it also represents the extent to which the SCN environment is perceived to facilitate person-film relations in terms of mutuality and of bindingness (Knorr Cetina, 1997; Bouman et al., 2008; Gao et al., 2010; Governo et al., 2017).

The present study assumed that sociality is the key concept in SCNs. Film lovers ultimately are attracted to these systems for their added hedonic value, which encourages social practises that play a specific role in their life (Bouman et al., 2008; Junglas et al., 2013). In the current research, hedonic value was thus defined as the level of pleasure film lovers experience when using SCNs to socialise and associate with others who also love films (Junglas et al., 2013; Al-Debei and Al-Lozi, 2014; Governo et al., 2017). While users are clearly able to derive pleasure from using these systems alone, the present study viewed entertainment or enjoyment as the outcome not just of watching films but also of interacting and socialising with others through SCN systems.

From this perspective, film lovers are not seen as solitary information processors but rather as social seekers who derive pleasure from interacting and grouping with others. Thus, one of SCNs' main purposes is to extend film lovers' network and tap into their potential to be a source of connectedness based on films or film-related issues (Vorderer, 2001; Bouman and Hoogenboom, 2009; Junglas et al., 2013; Governo et al., 2017).

2.1.3 Film lovers' intentions to use SCNs

According to well-established theories of information systems (ISs) and/or ITs, the intention to use these technologies (e.g. SCNs) is an important construct that mediates the impact of various variables on users' actual behaviour (e.g. Davis et al., 1989; DeLone and McLean, 1992; Junglas et al., 2013; Oh and Yoon, 2014). Previous studies have found that consumer intentions match consumer behaviours in terms of technology acceptance, which means both behavioural intentions and real behaviours are closely associated (Venkatesh and Davis, 2000; Agag and El-Masry, 2016). Since SCNs are an innovation and no real usage or behaviour data is yet available, the current research treated film

lovers' intentions to participate as a good indicator of their participation levels. This study also relied on these users' behavioural intentions to predict actual behaviours, which is in line with prior research, especially within the literature on innovation (see Davis [1989], Papies and Clemente [2008] and Agag and El-Masry [2016]).

Researchers have confirmed that individuals are goal-directed in their behaviour and they often seek out media platforms to satisfy a core set of motivations, which also help to clarify why film lovers might participate in SCNs (Dholakia et al., 2004; Cheung et al., 2010; Zolkepli and Kamazulzaman, 2015). Various scholars (see Raphaeli [1988], Dholakia et al. [2004], Sherry [2004], Cheung et al. [2010] and Zolkepli and Kamazulzaman [2015]) have found that entertainment and social interaction and enhancement, as well as maintaining interpersonal connectivity, are implicit motives to participate in SCNs. Other findings include that conceptually-related motivation factors such as social connections, enjoyment, attachment to groups, social relationships and information sharing are central reasons why individuals participate in virtual communities (Vorderer et al., 2004; Li et al., 2005; Bartsch and Viehoff, 2010; Iivari, 2014; Kunz and Seshadri, 2015). Quite interestingly, the uses and gratifications tradition – precursor of theories of acceptance and adoption of new technologies (Akram and Albalawi, 2016) – offers a great deal of research suggesting these concepts as predecessors of enjoyment, and identifying enjoyment as the primary reason for media use (Sherry, 2004; Vorderer et al., 2004; Li et al., 2005; Bartsch and Viehoff, 2010; Junglas et al., 2013; Iivari, 2014). Thus, the hedonic aspect of using SCNs may suggest that enjoyment is the dominant predictor of intentions to use this technology (Van der Heijden, 2004; Junglas et al., 2013).

The adoption of new hedonic technologies has attracted considerable attention, and many studies use technology acceptance models to explore the factors that determine these technologies' use (Davis, 1989; Davis et al., 1989; Venkatesh and Bala, 2008; Cha and Chan-Olmested, 2013; Shipps and Philipps, 2013). When perceived enjoyment is utilised in research on systems used for recreation, prior studies have suggested that perceived enjoyment can explain behavioural intentions to use ISs such as SCNs and, ultimately, their actual usage (Heidejen, 2004; Wixom and Todd, 2005; Wang et al., 2010; Punnoose, 2012; Ernst, 2014).

Thus, enjoyment as a predictor variable of usage intentions has been sufficiently emphasised in the literature (e.g. Agarwal and Karahanna, 2000; Venkatesh, 2000; Van

der Heijden, 2004; Hsu and Lin, 2007). Various researchers (see Benbasat and Barki, 2007; Wang et al., 2010; Junglas et al., 2013; Chen et al., 2016) contend, however, that more studies are needed to explore the antecedents of perceived enjoyment among individuals using hedonic information technologies. Since perceived enjoyment had not been investigated in the specific context of SCNs, the present study sought to scrutinise perceived enjoyment's potential precursors.

To explain better film lovers' behavioural intentions to use SCNs, this research's model incorporated the key activities available in SCN contexts. As stated earlier, in a SCN setting, films and social features are deeply integrated, which can create a joint area of interest for social interaction. Hence, rather than seeking just the entertainment of films, part of the film experience may also involve seeking out the company of others to have pleasurable social experiences through the perceived interactivity associated to the content and to the personal relationships in the social setting (Junglas et al., 2013; Shipps and Phillips, 2013; Chen et al., 2016).

Based on the literature contained in other hedonic adoption models (see Junglas et al. [2013]), the present study posited that SCN affordances that effectively explain its unique characteristics should be included into the acceptance paradigm, and then suggests that film lovers' perceived enjoyment will be determined by social interactive aspects and the integrative nature of SCN environments (Bagozzi, 2007; Junglas et al., 2013; Shipps and Phillips, 2013). From a practical standpoint, the current research assumed that an intrinsic motivation such as enjoyment is especially important for film lovers, resulting in a better explanation of SCN usage (Davis et al., 1992). Prior empirical research has indicated the constructs of perceived interactivity and perceived sociality relate directly to enjoyment, so the present study specified them as drivers of enjoyment in SCNs (Bucy and Tao, 2007; Phang et al., 2009; Junglas et al., 2013; Shafer, 2013; Shipps and Phillips, 2013).

Moreover, according to previous studies that have investigated the role of interactivity on websites, interactivity has been deemed one of the most prominent features of thriving video sites and a positive differentiator that influences users' enjoyment and participation intentions (Agarwal and Venkatesh, 2002; McMillan, 2002; McMillan and Hwang, 2002; Jiang and Benbasat, 2007; Yoo et al., 2015; Hu et al., 2016; Liu et al., 2016). Thus, in the overall, we argue the combination of interactive-and social factors that precedes the enjoyment perceptions and that relies on a set of interactivity and sociality-specific antecedents (see Figure1), have a positive influence on enjoyment and provide strong

predictive indicators of future intention to use SCNs, which in turn have a direct effect on actual usage (see Sledgianowski and Kulviwat, 2008; Junglas et al., 2013; Shipps and Phillips, 2013). Each construct and the associated hypotheses in the present study are discussed in the following section.
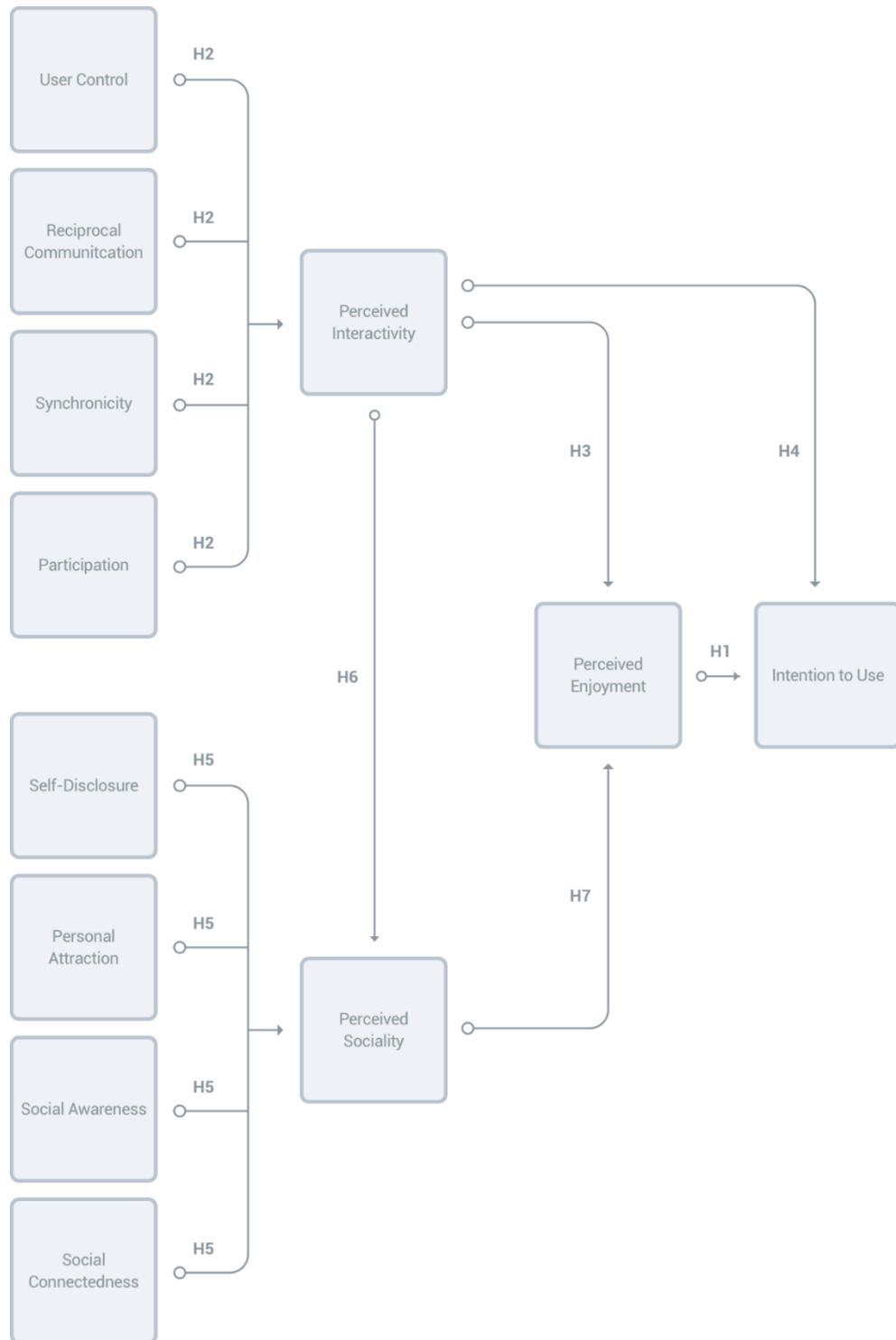
Figure 3. 1: Proposed model of acceptance of SCNs

2.2 Research model and hypotheses development

Based on the literature review, the research model presented in Figure 3.1 above integrated perceived enjoyment as the antecedent of film lovers' intentions to participate in SCNs. The model focused on understanding the determinants of perceived enjoyment and the extent to which the latter drives intentions to use SCNs. Using insights from related studies, the model's far-left side specifies key antecedents to the constructs of perceived interactivity and sociality, which are the potential precursors of the construct of enjoyment in SCNs. This study also assumed that the perceived intensified level of interaction offered by SCN systems will lead to sociality and result in users' reactions to and beliefs about SCNs (e.g. enjoyment). These, in turn, will also have a direct and positive relationship with intentions to use SCNs. A detailed discussion of the underlying hypotheses and the corresponding literature supporting this model is offered below.

2.2.1. Perceived enjoyment

Perceived enjoyment refers to the degree to which using SCNs is perceived as enjoyable in its own right and this enjoyment is considered an intrinsic source of motivation (Al-Gahtani and King, 1999; Van der Heijden, 2004; Troshani and Rao, 2008). Research has shown that the adoption of hedonic systems, such as SCNs, are associated with user perceptions of entertainment provided by the technology and its better explained when integrating perceived enjoyment as an influence factor (Sledgianowski and Kulviwat, 2008; Kim et al., 2009; Kim and Han, 2009; Hu et al., 2011; Sago, 2013).

Since SCNs' value lies in the fun experienced by film lovers, any model that attempts to explain the use of these systems needs to include the construct of perceived enjoyment (Rosen and Sherman, 2006). Thus, the present study's central assumption is that the more film lovers perceive SCNs as enjoyable, the more likely the film lovers are to say that they will use these systems (Rosen and Sherman, 2006). That is, perceived enjoyment was included as a substantial predictor in the current theoretical model, so we could hypothesise that:

> *H1: SCN users' perceived enjoyment has a positive influence positively on their intentions to use SCNs.*

2.2.2. Perceived interactivity: antecedents and effects

As perceived enjoyment is said to be an influential predictor variable in technology acceptance or intentions to use SCNs, the factors that may influence perceived enjoyment in the first place are of particular interest (Junglas et al., 2013; Wirtz and Gottel, 2016). Previous studies have often assumed that interactivity leads to more positive experiences, suggesting that the psychological outcomes associated with interactive systems such as SCNs include entertainment or enjoyment (Rafaeli, 1988; Gonzalez et al., 2009; Bucy and Tao, 2007; Liu et al., 2016). Thus, developing new media capabilities that afford a higher level of interactivity to SCNs was a key concern.

Researchers generally accept that interactivity is manifested in diverse ways, so studies have constructed this as a multidimensional concept (Ariel and Avidar, 2015). Facets of perceived interactivity that are commonly considered determinant factors in attitudes towards SCNs include the following characteristics. The first is user control, which refers to the extent to which individuals feel in control of interactions with SCNs and their overall experience (Fortin and Dholakia, 2003; Sicilia et al., 2005; Jiang et al., 2010; Wang et al., 2012; Zhao and Lu, 2012; Ariel and Avidar, 2015; Hu et al., 2016; Liu et al., 2016). The second factor is reciprocal communication, which comprises the ability to facilitate reciprocal and mutual communication between two and more entities.

A third factor is synchronicity, which refers to how much users' input and responses received within information exchanges are simultaneous (Liu and Shrum, 2005; Cui et al., 2010; Jiang et al., 2010; Wang et al., 2012; Zhao and Lu, 2012; Chen et al., 2014; Jensen et al., 2014; Shih and Huang, 2014; Ariel and Avidar, 2015; Hu et al., 2016). The last factor is participation or the extent to which a website and its users actively interact. For example, a site may allow visitors to modify or add information. When users are given opportunities to create content and take part in film discussions, information exchange is facilitated (Huang, 2003; Hu et al., 2016). Many theories and related research suggest that participation is the most significant part of the value creation that leads to a sense of community (Yoo et al., 2015; Hu et al., 2016).

In summary, perceived interactivity in SCNs includes four dimensions: user control, reciprocal communication, synchronicity and participation. These dimensions determine film lovers' perceptions of the systems' interactivity.

Based in our review of feature-based studies, we posited that the availability of socio-technological resources that enhance these dimensions are crucial to enabling interactivity and developing film lover communities. Genuine interactivity effects cannot occur without the actual use of interactive attributes (Sicilia et al., 2005; Bucy and Tao, 2007; Cui et al., 2010; LaMendola, 2010; Shipps and Philips, 2013; Tang et al., 2013; Liu et al., 2016; Governo et al., 2017). SCN systems have thus been designed with a bundle of user-oriented resources connected to each other through the navigation architecture, thereby facilitating users' experiences of interactions either with the system or with other film lovers (Huang, 2003; Sundar, 2004; Li et al., 2005; Ren et al., 2007; Pang et al., 2009; Hu et al., 2016; Governo et al., 2017).

While the present research assumed that the presence of features that assist interactivity should improve interactivity and its perception, interactivity was not seen as merely an inherent attribute of SCNs. Rather, these systems could be understood as 'social affordance technologies' that enable interactivity, which means that both SCNs' technological features and their users' actual performance determine the level of interactivity and sociability (Phang et al., 2009; Rozendaal et al., 2010; Ariel and Avidar, 2015).

In this context, SCNs' perceived interactivity indicates that film lovers can, for example, create their online identity, control self-presentation, build connections with others and receive the benefits of rich and varied experiences. These, in turn, actively invite users to engage with SCN systems (Hoffman and Novak, 1996; Preece, 2000; Cyr et al., 2007; Comber et al., 2013; Liu et al., 2016). The intrinsic motivation to participate in SCNs thus derives from interactions with the system and communication partners or the enjoyment and pleasures derived from these partnerships (Li et al., 2005; Tedjamulia et al., 2005; Phang et al., 2009).

By placing the concept of interactivity at the centre of SCNs, the present study posited that film lovers will develop favourable attitudes towards SCNs if their attributes mean the systems are perceived as highly interactive due to their ability to generate social activity and gratification (Bakar et al., 2014; Hu et al., 2016; Governo et al., 2017). Thus, the following hypotheses were put forward:

H2: SCNs' perceived interactivity is a second-order construct that consists of (a) control, (b) reciprocal communication, c) synchronicity and (d) participation.

H3: SCN users' higher levels of perceived interactivity will predict their higher levels of perceived enjoyment of SCNs.

H4: SCN users' higher levels of perceived interactivity will predict their higher levels of intention to use SCNs.

2.2.3. From interactivity to sociality: supporting components of sociality

The literature reveals a general agreement that interactivity is an important element of the communication process and that interactivity serves as a maintenance strategy that contributes to relational outcomes (Ren et al., 2007; Rozendaal et al., 2010; Hongcharu, 2014; Ariel and Avidar, 2015; Luo et al., 2016). The increasingly digital manifestations of sociality have been facilitated by new interactive technologies that offer users fun and engaging interactions and facilitate online social relationships nearly as rich and meaningful as those in real life (Li et al., 2005; Boyd and Heer 2006; Kaiser et al. 2007; Bouman et al., 2008; Rozendaal et al., 2010; Junglas et al., 2013). Previous studies have, however, often viewed enjoyment from a solitary user perspective, assuming that pleasure is only realised through interactions between individuals and systems. This means that the value of these technologies' relational dimension has been underestimated (Li et al., 2005; Junglas et al., 2013). The present study proposed a broader perspective because individuals increasingly use technology for enjoyment, seeking out and connecting with others to whom they can relate in some way (Rozendaal et al., 2010; Junglas et al., 2013).

The presence of this hedonic component is defined as the degree to which film lovers have fun when using SCNs. This approach includes the perspective that film lovers need social engagement and want to be attached to others because this is critical for their overall wellbeing (Baumeister and Leary, 1995; Van der Heijden, 2004; Li et al., 2005; Junglas et al., 2013). Evidence has been found that individuals who are able to share with others and exchange thoughts and feelings are considered more strongly attached to friends, typically experiencing a higher level of enjoyment from their close relationships. The closeness that develops among these individuals functions as a necessary precursor of happiness (Baumeister and Leary, 1995; Junglas et al., 2013).

In summary, the desire to socialise and associate with others who share an interest in films appears to be a dominant factor promoting the use of SCNs via 'perceived enjoyment' (see Li et al. [2005], Bouman, et al. [2008], Gao et al. [2010] and Junglas et

al. [2013]). This suggests that film lovers with higher levels of attachment motivation may perceive SCNs as more enjoyable, which in turn will have a positive influence on SCN usage intentions. Therefore, we hypothesised the following:

H5: *SCN users' perceived interactivity has a positive influence on their perceived sociality.*

H6: *SCN users' perceived sociality has a positive influence on their perceived enjoyment of SCNs.*

2.2.4. Perceived sociality

According to previous research, the extent to which online sociality can unfold during interactions and lead to enjoyment is influenced by the technology that supports sociality. The present concept of sociality means this cannot be experienced with the features supporting social functionality of standard OTT film websites. A typical OTT website, for example, does not show who else is currently online. These sites neither allow for direct exchanges through non-verbal communication nor offer relationship-oriented attributes important prerequisites for communication, social exchanges and sociality (Homans, 1958; Kraut et al., 1999; Governo et al., 2017). SCNs, in contrast, provide exactly these aspects (Governo et al., 2017).

Based on the current research's definition of sociality, we identified what SCN features affect enjoyment outcomes by nurturing film lovers' social integration. In identifying the supporting factors that impact sociality, we did not focus on inherent properties – although the set of features is the most visible characteristic of SCNs. Rather, we examined the affordances of social components that trigger mechanisms that may motivate film lovers to participate in SCNs and engage in social activities or associate with other users (Ellison and Boyd, 2013; Bouman and Hoogenboom, 2009; Junglas et al., 2013; Governo et al., 2017). We proposed the following five possible actions: self-disclosure, social presence, personal attraction through similarity, social awareness and perceived social connectedness.

2.2.4.1. Self-disclosure

Developing identities and being able to communicate and control self-presentation are critical factors for sociality (Ma and Agarwal, 2007; Bouman, 2008; Crumlish and

Malone, 2015). The more film lovers disclose information about themselves, the more they feel connected to and intimate with each other (Köbler et al., 2010; Janssen et al., 2014). Some benefits associated with disclosure are enjoyment (e.g. Krasnova et al., 2009) and the ability to maintain social ties (Ellison et al., 2007).

Hence, SCN systems offer various ways to display profile information, link users' virtual representation, visualise connections with friends and watch and share digital media (Dwyer, 2007). Moreover, SCN features supporting film lovers' self-presentation enable them to convey rich information about their behavioural contexts, social associations and dispositional traits. All of these features help members to become aware of each other's existence as social actors and develop psychological attachments (Ma and Agarwal, 2007; Shen and Kalifa, 2009).

2.2.4.2. Social presence

Social presence is an influential factor promoting connections between film lovers and representing the need for film lovers to associate (Kumar and Benbasat, 2006; LaMendola, 2010). Social presence is the 'carrier' of relationships, which is defined as the extent that SCNs facilitate a continuous awareness of the co-presence of others and a sense of engagement with them (Cyr et al., 2007; LaMendola, 2010; Junglas et al., 2013). According to Ren et al. (2007), attachment between film lovers increases if they have a sense of virtual co-presence or a subjective feeling of being together in SCNs. Social presence has also been confirmed to be a social element that produces user enjoyment (Cyr et al., 2007; Hassanein and Head, 2007).

Since the proponents of SCNs consider social presence critical to achieving sociality (LaMendola, 2010; Governo et al., 2017), these systems offer a combination of presence indicators and communication systems (e.g. chat) to provide awareness of users' status and the presence of other film lovers in the same circle. Showing film lovers' status (e.g. online or offline), information of the self (e.g. lists of favourite films) and information about others doing the same things (e.g. stream of activity), enhances users' perceptions of synchronicity and awareness (see Cui et al. [2010], Shen and Kalifa [2009], Crumlish and Malone [2015] and Governo et al. [2017]).

If these important social cues are missing from OTT film sites but are available through SCNs, social context cues on SCNs that facilitate film lovers' perceptions of cognitive

and affective social presence should enhance their perceptions of SCN sociality. Providing higher cognitive and affective social presence cues means users can be more sociable, affective and personal (Korsgaard et al., 2010; Shin and Shin, 2011; Charfi and Atif, 2014). Thus, the present research assumed that, by allowing users to perceive social presence more easily and offering them appropriate tools to achieve sociality, SCNs could be adopted and used by more film lovers.

2.2.4.3. Personal attraction through similarity

Film lovers are attracted to websites on which their interactions involve a significant level of personal identification with the sites' content and users (Shipps and Phillips, 2013). To identify with any given group, film lovers look for similarities between other members and themselves (Code and Zaparyniuk, 2009). Previous studies have concluded that film lovers have a greater tendency to associate, bond and interact with others when they perceive similarities in preferences, attitudes and tastes, among other features (McPherson et al., 2001; Ren et al., 2007; Bisgin et al., 2012).

Tastes are central to film lovers' identity (Lewis et al., 2012), which means that members' similar backgrounds may lead them to join common categories. Cinephiles' tastes, that is, the films they like, consume, share and comment on, imply a ritual form of identification and a means of constructing social relations. These tastes help establish networks of trusting relationships that facilitate group mobilisation (DiMaggio, 1987; Lizardo, 2006; Berger and Heath, 2007; Ren et al., 2007; Crumlish and Malone, 2015). Lewis et al. (2012) found that film lovers who share certain tastes in movies are significantly likely to befriend one another. Given that social integration is crucial for film lovers' wellbeing and taste communities are built on each individual's sense of belonging and yearning to belong (Shaffer and Anundsen, 1993; Rhode and Shaffer, 2003; Dasgupta, 2010), film lovers are likely to have positive attitudes towards and intentions to adopt and use SCNs.

2.2.4.4. Social awareness

Social awareness is often defined as an understanding of others' activities (Dourish and Bellotti, 1992; Wagner and Strohmaier, 2010). Contrary to OTT film sites that lack cues regarding other users' activities, social awareness is essential to SCNs (Governo et al.,

2017). Social awareness systems seek to support social connectedness by providing film lovers with subtle cues about what is happening in the SCN in question (Visser et al., 2011). Social awareness can be achieved through mechanisms showing who is present, by monitoring others' activities and continuously participating in online discussions in the form of comments, reviews and other input (Shen and Kalifa, 2009; Wagner and Strohmaier, 2010; Governo et al., 2017). A social awareness of other users using the SCNs' presence tools allows users to feel connected to each other (Ma and Agarwal, 2007; Krcmar et al., 2016). Thus, both social presence and social awareness allow SCN users to experience feelings of social connectedness (Krcmar et al., 2016).

2.2.4.5. Perceived social connectedness

Perceived social connectedness is related to social presence and social awareness (Rettie, 2003; Kobler et al., 2010; Riedl et al., 2013). Perceived social connectedness is the degree to which film lovers feel emotionally connected, so it can be described as a positive emotional appraisal characterised by feelings of belonging to social groups. This implies individuals believe in the existence of bonding relationships (van Baren et al., 2002; Smith and Mackie, 2007; Kobler et al., 2010; Shin, 2010; Bolliger and Inan, 2012; Akram and Albalawi, 2016). Thus, the pursuit of connectedness represents one of the basic motivational principles that underlie social behaviours – a fundamental need for belongingness and connectedness that promotes social relationships (Rettie, 2003).

When film lovers feel connected, they feel less isolated. Perceived connections make them more willing and able to engage with others and participate in activities as a desirable goal of social realisation and identification (Kobler et al., 2010; Heere et al., 2011; Bolliger and Inan, 2012; Luo et al., 2016). Given that film lovers' sense of belonging represents how much they feel part of a social group (Visser et al., 2011; Quinn and Oldmeadow, 2013), the present study posited that SCNs – as compared to other film sites – afford a stronger sense of connectedness and community (Sledgianowski and Kulviwat, 2008; Shin, 2010; Kwon et al., 2014; Governo et al., 2017).

SCNs systems, therefore, seek to stimulate film lovers' sense of social connectedness by providing them a context in which to become aware of and interact with others (e.g. presence, availability and activities). SCNs offer a relationship system that allows cinephiles to befriend each other (Ashida and Heaney, 2008; Shin, 2010; Shin and Kim,

2008) and affective benefits such as intimacy, a sense of sharing, stronger group attraction and ongoing connections (Ijsselsteijn et al., 2003; Boyd and Ellison, 2007). The present study thus surmised that these features will have a positive impact on film lovers' intentions to use SCNs. Extrapolating from the above findings, the current study constructed the following hypotheses:

> **H7**: *SCNs' perceived sociability is a second-order construct that consists of (a) self-disclosure, (b) social awareness, (c) personal attraction and (d) social presence.*

3. Methodology

3.1 Methodological design

The present study's main goal was to assess the most important determinants of film lovers' intentions to adopt SCNs and, more specifically, to evaluate the influence of interaction and socialisation on users' acceptance of new media technologies. The literature reveals a growing understanding that the opinions of individuals from target populations are more accurate than the views of people who are not from these target groups (Ozer, 2007). Given that SCNs are an innovation and no usage or behaviour data is yet available for these systems, the current research sought to overcome these problems by focusing on the behavioural intentions of film lovers with prior experiences with OTT environments and communal cyberspaces. In particular, the study concentrated on online sites that host comments and reviews about world films (see Ozer [2007] and Papies and Clement [2008]).

According to previous research (see Chyi [2005], d'Astous et al. [2005] and Papies and Clement [2008]), past behaviours strongly influence the adoption of future innovations. Logically, users who are generally interested in films and more particularly in film consumption and interactions with other film lovers in computer-mediated environments will adopt new services facilitating these activities (Papies and Clemente, 2008; Rouibah and Hamdy, 2009).

We captured past behaviours with visible indicators reflecting an interest in world films, namely, subscriptions to YouTube channels that contain world films and membership in a Facebook group with a shared interest in world films. We posited that past behaviours of adopting similar systems would influence film lovers' acceptance of SCNs (Papies and

Clement, 2008; Rouibah and Hamdy, 2009). Possible explanations for this are the growing online culture of consumption, habitualisation of consumer behaviour and film lovers' pre-use expectations of entertainment, social interaction and self-expression regarding new film delivery systems (Papies and Clemente, 2008; Bakar et al., 2014; Ariel and Avidar, 2015).

YouTube and Facebook include new forms of contemporary cinephilia that contribute to online film discourses and human interactions around films on the Web (Ding et al., 2011; Susarla et al., 2011; Di Foggia, 2013; Dynel, 2014; Baek, 2015; Fuchs, 2017). Besides offering asynchronous computer-mediated interactions, YouTube users can easily upload copied films less restricted by geographic licensing rules and share these videos with a broad audience across the world. This means these users can more effortlessly access and consume cross-cultural media content, such as world films (Haridakis and Hanson, 2009; Ding et al., 2011; Susarla et al., 2011; Konijn et al., 2013; Dynel, 2014; Ellingsen, 2014; Baek, 2015). Given YouTube's prominence as a streaming service, we asked several channels to participate in our study, of which four YouTube channels that host world films agreed. For legal reasons, we cannot disclose the names of the four channels.

Film-related groups are also quite varied on Facebook. In Facebook, a film group 'liked' by its members represents an important knowledge about their real-life tastes (Fornacciari et al., 2017). Thus, to increase the social reputation of the Avids SCN, we created, two years prior to present data collection, the Avids Facebook group. The Avids Facebook group was built as an interactive online forum to encourage film lovers to blend and enhance self-concepts with other group members and fuel the need to discuss world films with their peers, which is part of film lovers' tradition (see Kelman [1961], Schiffman and Kanuk [1994], Behlil [2005], Bhattacharyya and Dagupta [2014] and Fornacciari et al. [2017]).

3.2. Target population, questionnaire and hypotheses' main proxies

The present study assumed that the consumption of – and interactions focusing on – world films is an active process in which film lovers attempt to satisfy psycho-social needs (e.g. enjoyment and interaction) by exposing themselves selectively to specific content (Blumler, 1979; Cha, 2013; Baek, 2015; Wiard and Domingo, 2016). The current research posited that YouTube and Facebook are ideal platforms in which to target and gather a

sample of multicultural film lovers and test empirically their intentions to adopt SCNs. We selected the subscribers of the four YouTube channel partners because the act of subscription indicates a personal identification with the channel in terms of taste, as well as a willingness to visit and watch films uploaded to the channel (Susarla, 2012). The present sample included users who made comments on the films presented and the general viewers who visited the channels.

Facebook, on the other hand, allowed us to form a homogenous group of film lovers who were already interacting around world films. We assumed that this sample of population fit our research objectives well. By focusing on these film lovers as a primary target group, we were able to get more realistic predictions about intentions to use SCNs. Logically, film lovers accustomed to streaming films and/or with integrated social activities in online media consumption environments are more likely to accept SCNs since these are perceived as compatible with the way they watch films and socialise around them (Ozer, 2007; Rouibah and Hamdy, 2009).

The survey used to gather data to test our hypotheses was administered using LimeSurvey as a hosting tool. The link to the online questionnaire and a background research video was published on each YouTube channel and, when possible, sent to the YouTubers' associated email accounts. The questionnaire and research video were also distributed by posting a link to the survey in the Avids' Facebook page, as well as sending the questionnaire and video to each member using the status message function.

In a second stage, we sought to include the academic dimension of film culture – represented by the educational system – and increase the number of participants and, therefore, the validity of our results by distributing the survey to students enrolled in film courses at six universities. The current generation of film students are immersed in the OTT technological revolution and are thus probably skilled social media users who watch, review and comment on a great number of films, so we decided these students would be appropriate participants.

By distributing the questionnaire among this diverse sample of film lovers, we sought to test extensively our theoretical framework (see Figure 3.1 above) and the corresponding hypotheses. The questionnaire was based on the literature review described in section two and adapted to fit our research context (see Table 3.1).

Table 3. 1: Descriptive statistics of model constructs

			Questions	Mean	Strongly Disagree	Disagree	Neutral / No Opinion	Agree	Strongly Agree
Perceived Interactivity	User control	UC1	Having the control to create my identity and self-presentation is very important to me.	4.11	1.9%	2.3%	9.4%	55.9%	30.5%
		UC2	Having the control to add (or not) other film lovers as friends is very important to me.	4.30	1.3%	2.7%	8.6%	39.5%	48.0%
		UC3	I prefer a film platform in which I can control who I want to add a friend.	4.41	0.8%	1.9%	6.1%	37.8%	53.4%
		UC4	I prefer a film platform in which I can control and create my identity and self-presentation.	4.23	1.5%	1.7%	9.6%	46.6%	40.7%
	Reciprocal communication	RC1	Communicating with other film lovers and responding to their comments, reviews and ratings is really important to me.	4.18	1.3%	3.5%	9.4%	48.0%	37.8%
		RC2	I prefer a film platform in which I can communicate with other film lovers and respond to their comments, reviews and ratings.	4.18	1.3%	3.5%	9.0%	48.9%	37.4%
		RC3	I prefer a film platform that facilitates conversations among film lovers.	4.11	1.0%	4.6%	10.4%	49.7%	34.2%
	Synchronicity	S1	Chatting or having a real time conversation with other film lovers who are in my social circle is really important to me.	3.93	2.3%	6.1%	15.4%	48.9%	27.3%
		S2	I prefer a film platform in which I can have a chat or real time conversation with other film lovers in my social circle.	3.98	2.7%	4.4%	14.0%	50.1%	28.8%
		S3	I prefer a film platform whose interface facilitates communication between film lovers.	4.12	1.5%	2.5%	9.4%	55.5%	31.1%
	Participation	P1	Engaging in discussions (e.g. chatting, making comments and writing reviews) and sharing knowledge with other film lovers about film-related issues is really important to me.	4.01	1.9%	4.6%	9.6%	58.5%	25.5%
		P2	I prefer a film platform in which I can take part in discussions (e.g. chatting, making comments and writing reviews) and share knowledge about film-related issues with other film lovers.	4.04	1.9%	4.2%	8.1%	59.5%	26.3%
		P3	I prefer a film platform in which I can share my film-related social experiences with other film lovers.	4.14	1.7%	2.7%	7.7%	55.3%	32.6%
Sociality	Self-disclosure	SD1	Creating and maintaining a relationship with others who have the same interest and tastes in films is important for my wellbeing.	3.93	2.7%	6.5%	12.5%	52.0%	26.3%
		SD2	I want to engage and form connections with others with the same interest and tastes in films.	4.03	2.1%	4.6%	11.3%	52.0%	30.1%
		SD3	I value a film platform in which I can share and exchange thoughts about films with other film lovers.	4.11	2.3%	1.7%	8.8%	56.8%	30.5%
		SD4	I value a film platform in which I can create and maintain relationships with other film lovers.	4.05	2.5%	2.7%	12.5%	51.6%	30.7%
	Social presence and awareness	SPA1	I could more easily interact socially and associate with other film lovers if I could have a sense of their presence (e.g. who's online).	3.80	3.3%	6.9%	16.7%	52.2%	20.9%
		SPA2	I feel more attached to others if I sense they are present and they are doing the same activities that I am.	3.85	3.3%	7.3%	14.4%	51.1%	23.8%
		SPA3	Indicators of the simultaneous presence online of other film lovers are important for me.	3.74	3.5%	10.0%	17.7%	45.9%	22.8%
		SPA4	I could more easily be sociable and associate with other film lovers if I have an awareness of what others are doing in film providers' platform.	3.85	3.3%	6.5%	15.7%	51.1%	23.4%
	Personal attraction	PA1	I probably would befriend another film lover who shares the same tastes in films in Avids.	4.12	2.1%	2.7%	12.5%	46.1%	36.5%
		PA2	Personal identification with others in terms of tastes in films is important to me.	4.01	2.1%	4.2%	11.3%	55.7%	26.7%
		PA3	I'd feel more willing to interact with others when interactions also involve a level of personal identification.	3.96	2.5%	4.8%	9.8%	60.1%	22.8%
	Social connectedness	SC1	Participating in a community that shares the same love of films is important to me.	4.12	1.7%	4.0%	11.3%	46.6%	36.5%
		SC2	I'd feel motivated to participate in a social content network in which I can bond or associate with others with the same love of films.	4.12	1.7%	4.8%	8.8%	49.7%	35.1%
		SC3	I'd feel motivated to participate in a social content network that provides a context for interactions, awareness of others (e.g. presence), availability, activities and a system that helps me befriend others.	4.02	1.9%	5.4%	13.4%	47.4%	31.9%
		SC4	I'd feel motivated to participate in a social content network that offers intimacy, a sense of sharing, stronger group attraction and ongoing connections between film lovers.	4.05	1.3%	5.4%	13.6%	47.0%	32.8%
Perceived Enjoyment		PE1	I believe film-related social experiences in Avids will be enjoyable.	4.26	1.3%	1.0%	9.2%	47.4%	41.1%
		PE2	Overall, I believe that using Avids could be entertaining.	4.25	.8%	1.3%	8.4%	51.4%	38.2%
		PE3	I'll have fun using Avids.	4.19	1.0%	.4%	14.8%	46.1%	37.6%
Intention-to-Use		IU1	I intend to use Avids over the next year.	4.10	1.7%	2.1%	15.9%	44.9%	35.5%
		IU2	I intend to use Avids at every opportunity over the next year.	3.90	1.7%	5.4%	22.3%	42.0%	28.6%
		IU3	Given the opportunity, I'll participate in the Avids film platform since this encompasses a community of film lovers who share my interest in films.	4.08	0.8%	2.5%	11.7%	58.2%	26.7%
		IU4	I'll pay a subscription fee to participate in a film platform that encompasses a community of film lovers who share my interest in films.	3.04	12.7%	23.4%	18.0%	38.6%	7.3%
		IU5	I'll use Avids if it is available without a subscription fee.	4.15	1.3%	2.5%	10.4%	51.4%	34.4%
		IU6	I'll use Avids even if it entails a subscription fee.	3.10	9.6%	24.4%	20.7%	37.2%	8.1%
		IU7	If Avids is available without a subscription fee, I'd rather use Avids than other film sites such as YouTube, Netflix, Hulu or Amazon.	3.69	1.7%	6.1%	27.6%	51.4%	13.4%
		IU8	Even with a subscription fee, I'll rather use Avids than other film sites such as YouTube, Netflix, Hulu or Amazon.	3.01	12.7%	23.8%	19.6%	37.4%	6.5%

Before answering the questionnaire, respondents were asked to watch a video clarifying the background of the research (i.e. the film market, competitors, type of films and unmet film lovers' needs) and Avids' features and affordances as an SCN.[*] The questionnaire was organised into three sections. The first section included questions about online film-related social experiences. This section was constructed to collect the film lovers' opinions about what they considered important ways to support their online social activities centred around films when these are mediated by SCNs.

In the second section, respondents were asked to evaluate the importance of statements about Avids' affordances as an online social setting – with the support of visual clues to the nature of SCN interface features. Then, the respondents were asked to rate items related to their intentions to use Avids in the future (see Ozer [2007], Papier and Clement [2008] and Gao et al. [2010]). The present study assumed that including statements with real illustrations of a prototype SCN's features would be more suitable for culturally and linguistically diverse test takers, diminishing the chance that respondents would misunderstand items. In addition, statements with image-based elements require less attention and reduce respondents' fatigue (see Leutner et al. [2017]). The third section included questions about respondents' age, gender, education and present country of residence.

The 39 items measuring the key constructs were all designed to use a five-point Likert scale (i.e. from 1 = 'Strongly disagree' to 5 = 'Strongly agree'). Likert scale items and responses are simple for researchers to prepare and interpret and easy for respondents to process (see Schaik and Ling [2007] and McLeod [2008]). Furthermore, because Likert-type questions use a scale, individuals are not forced to express either-or opinions, allowing respondents to remain neutral should they so choose to do so.

The survey was conducted online in English, within a time frame of two weeks (i.e. 23 November to 9 December 2017). By the end of the inquiry process, 667 questionnaires had been filled in, of which 479 were complete.

The respondents are quite balanced in terms of gender, with 51% being female and 49% male. They were young (i.e. 77% aged 40 years old or younger) (see Figure 3.2) and highly educated, with 86% having a university degree – including 13% with doctorates. In terms of country of residence, European countries are the most represented, including

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[*] See https://www.youtube.com/watch?v=GoUVd7rOoRU.

76% of all respondents. One-third of the total sample were located in Portugal (see Figure 3.3) at the time of the survey.
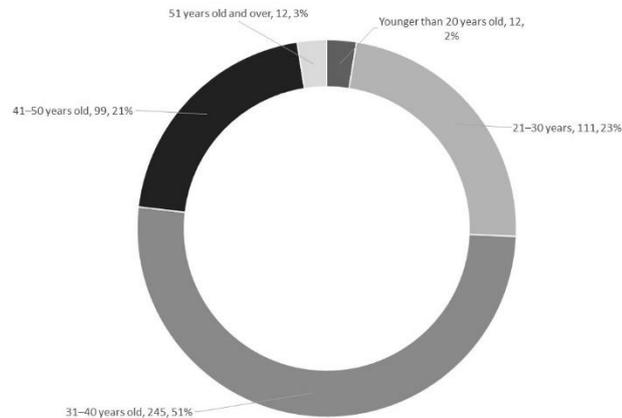

**Figure 3. 2**: **Respondents' age distribution (number [N] = 479)**

Source: Author
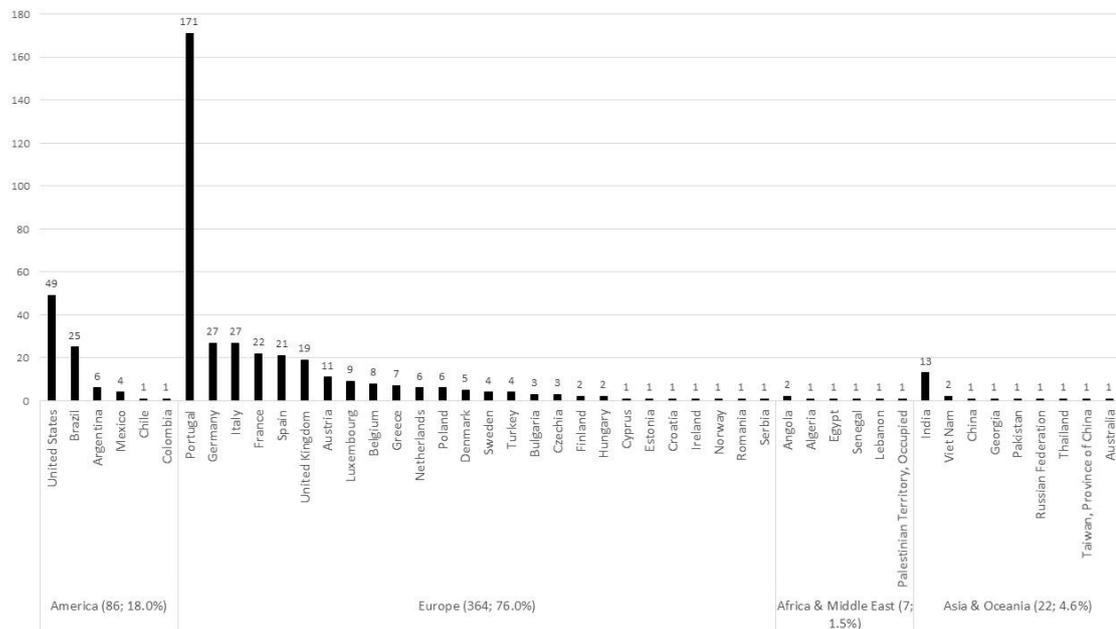
Figure 3. 3: Respondents' country of residence distribution (N = 479)

Source: Author

4. Empirical results

4.1. Descriptive results

The great majority (i.e. about 80%) of the respondents stated that, if no subscription was necessary, they would be quite likely to use the Avids SCN (see Table 3.1 above). More specifically, 86% agreed or strongly agreed that they would use Avids if this were available without a subscription fee. A further 85% agreed or strongly agreed that they would participate in the Avids film platform, which encompasses a community of film lovers who share the same interests in films. Interestingly, although Avids is a prototype, 65% of the respondents asserted that, if available without a subscription fee, they would rather use Avids than other film delivery sites such as YouTube, Netflix, Hulu or Amazon.

When the scenario of a required subscription fee is mentioned, the above-mentioned percentages fall sharply. Nevertheless, the percentage of potential users of Avids is still reasonably high (45%), with 44% reporting that, even with a subscription fee, they would rather use Avids than other film sites such as YouTube, Netflix, Hulu or Amazon.

Perceived enjoyment is the construct with higher levels of agreement as almost 90% of the respondents believe that the Avids film-related social experiences will be enjoyable, entertaining and fun. Perceived interactivity and perceived sociality appear to be equally valued by respondents. However, two of perceived interactivity's components – user control and reciprocal communication – emerge as the most significant. About 90% of the respondents prefer a film platform in which they can have control over who they want to add as a friend and how they create their identity and self-presentation. In addition, 87% of the respondents agree or strongly agree that communicating with other film lovers and responding to their comments, reviews and ratings is extremely important, preferring a film platform in which they can develop and become involved in these activities. Although respondents appear to agree that a film platform must have an interface that facilitates communication between film lovers (i.e. an average score of 4.12 out of 5), chats or real time conversations with other film lovers in their online social circle are not as highly valued (i.e. 3.9 out of 5).

Sharing and participating also emerge as significant features from the film lovers' perspective. Over 85% of the respondents would prefer a film platform in which they can share their film-related social experience with other film lovers, take part in discussions

(e.g. chatting and writing comments and reviews) and share knowledge about film-related issues with other cinephiles.

Self-disclosure and social connectedness are the components of perceived sociality that received higher levels of agreement. In particular, 87% of the film lovers surveyed value a film platform that lets them share and exchange thoughts about films with other cinephiles, and 83% feel motivated to participate in a SCN in which they can bond or associate with others with the same love for films.

Social presence and awareness, although important, do not appear to be as important as the remaining dimensions of perceived sociality. Around 70% of respondents agree or strongly agree that indicators of simultaneous online presence with others film lovers are important for them. A further 73% admitted that they could more easily be social and associate with other film lovers if they have a sense of their presence (e.g. who is online).

4.2. Determinants of intentions to use Avids: estimation results

The proposed model (see Figure 2 above) considers perceived interactivity and perceived sociality as second-order formative constructs and perceived enjoyment and intention to use as reflective constructs. In formative constructs, the direction of causality is from items to constructs, whereas, in reflective constructs, the direction is from constructs to items.

The model was estimated using PLS-SEM (Hair et al., 2017), which has been widely used in previous studies of technology usage (Iivary, 2014; Zolkepli and Kamarulzaman, 2015; Agag and El-Masry, 2016). PLS-SEM was selected rather than covariance-based SEM for four main reasons (Hair et al., 2011). The first was the presence of both reflective and formative constructs in the model formulation (Ringle et al., 2012). The second reason was the possibility of multicollinearity in independent variables. The third was that PLS-SEM is a distribution-free method, and the last reason was that this method offers robust results.

The analyses proceeded in two steps (Hair et al., 2017), estimating and evaluating first the reflective and formative aspects of the measurement model and then the structural model (i.e. structural relationships among the constructs). Thus, empirical measures of the relationships both between items and constructs (i.e. measurement models) and between constructs (i.e. structural model) were analysed (Becker et al., 2012) (see Figure 3.4).
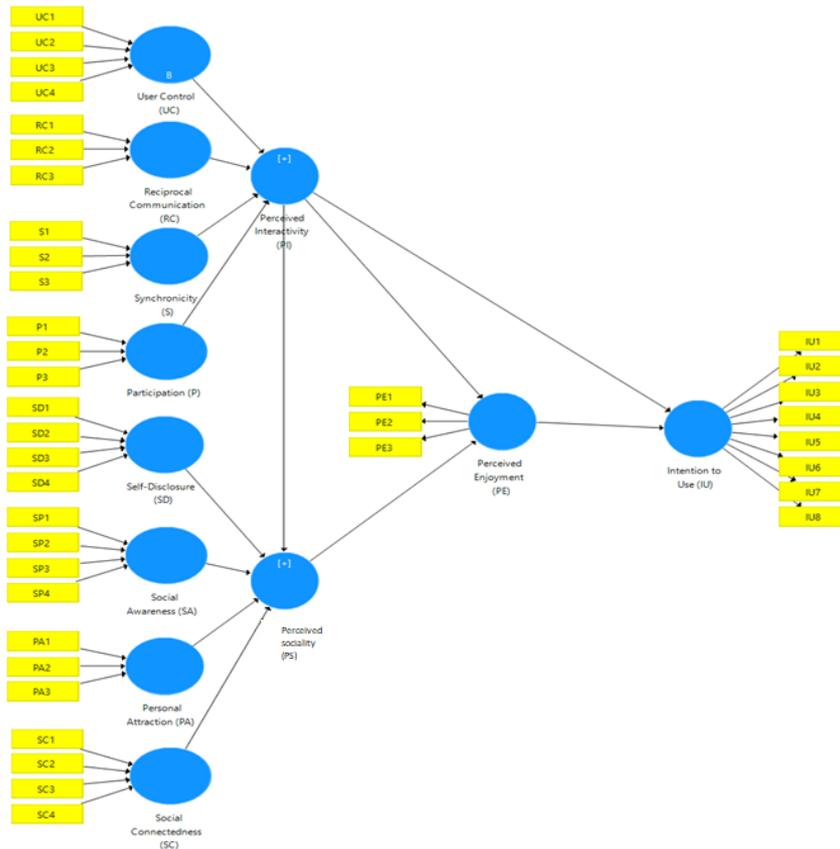
Figure 3. 4: **Proposed model**

4.2.1. Measurement model

The results of the measurement model evaluation for the reflective constructs include assessments of internal consistency (i.e. composite reliability), indicator reliability, convergent validity (i.e. average variance extracted [AVE]) and discriminant validity. The results of the measurement model evaluation for the second-order formative constructs comprise assessments of content validity, collinearity among indicators and outer weights' significance and relevance.

The outer model's specifications are presented in Table 3.2. For reflective constructs the focus is on the loadings, whereas, for formative constructs, it is on the weights. As item loadings are higher than or equal to 0.70, more shared variance exists between the constructs and their measures than error variance. Moreover, factor loadings on unrelated constructs are less than 0.40. Therefore, the item reliability of the latent constructs is adequate (Hair et al., 2011). Bootstrapping methods allowed us to estimate the *t*-statistic for the measurement model. All items are statistically significant at levels of 1%, so they were retained for further analysis.

Table 3. 2: **Specification of outer model**

Construct	Item	Loading/Weight*	Standard Deviation (SD)	T Statistics (|O/SD|)	p values
Intention to Use	IU1	0.82	0.02	50.53	0.00
	IU2	0.75	0.03	29.33	0.00
	IU3	0.76	0.04	17.68	0.00
	IU4	0.76	0.02	31.84	0.00
	IU5	0.70	0.03	21.10	0.00
	IU6	0.70	0.03	24.37	0.00
	IU7	0.90	0.01	111.02	0.00
	IU8	0.90	0.01	100.37	0.00
Perceived Enjoyment	PE1	0.94	0.01	83.57	0.00
	PE2	0.96	0.01	148.94	0.00
	PE3	0.94	0.01	117.43	0.00
Perceived Interactivity*	UC1	0.75	0.05	15.35	0.00
	UC2	0.48	0.06	8.29	0.00
	UC3	0.56	0.06	9.11	0.00
	UC4	0.69	0.05	14.64	0.00
	RC1	0.83	0.03	31.46	0.00
	RC2	0.84	0.03	31.21	0.00
	RC3	0.79	0.04	22.15	0.00
	S1	0.85	0.03	31.59	0.00
	S2	0.85	0.03	31.99	0.00
	S3	0.85	0.03	30.01	0.00
	P1	0.77	0.04	21.69	0.00
	P2	0.82	0.03	28.60	0.00
	P3	0.83	0.03	24.78	0.00
Perceived Sociality*	SD1	0.69	0.04	19.93	0.00
	SD2	0.73	0.04	17.61	0.00
	SD3	0.77	0.04	21.95	0.00
	SD4	0.79	0.03	25.35	0.00
	PA1	0.80	0.03	24.78	0.00
	PA2	0.74	0.04	20.89	0.00
	PA3	0.72	0.04	20.42	0.00
	SC1	0.84	0.03	28.81	0.00
	SC2	0.96	0.01	73.69	0.00
	SC3	0.89	0.02	40.10	0.00
	SC4	0.87	0.03	34.94	0.00
	SP1	0.68	0.05	13.62	0.00
	SP2	0.66	0.05	13.45	0.00
	SP3	0.69	0.05	15.10	0.00
	SP4	0.70	0.05	15.26	0.00

In terms of internal consistency reliability (see Table 3.3), the constructs of intention to use and perceived enjoyment have satisfactory values for the indicators Cronbach's alpha, rho-A and composite reliability, meeting the threshold criterion of 0.70. These constructs thus have consistent reliability (Hair et al., 2011). The outer loadings for the reflective constructs are higher than 0.70, and their AVE is higher than 0.50, providing evidence of convergent validity. An AVE value higher than 0.5 means that the construct in question explains more than half of its indicators on average (Fornell and Larcker, 1981).

Table 3. 3: **Construct validity criteria for reflective constructs**

	Cronbach's Alpha	rho_A	Composite Reliability (CR)	Average Variance Extracted (AVE)
IU	0.91	0.93	0.92	0.60
PE	0.94	0.94	0.94	0.90

The Fornell-Larcker criterion was next applied to test for discriminant validity (Fornell and Larcker, 1981). The results reveal that the square root of the AVE for each construct (i.e. on the diagonal) is higher than the highest correlation with any other construct (see Table 3.4).

Table 3. 4: Discriminant validity

	IU	PE	PI	PS
IU	**0.80**			
PE	0.78	**0.95**		
PI	0.61	0.66	Formative	
PS	0.71	0.74	0.80	Formative

Note: Diagonal elements in bold are the square root of AVE.

The analysis of the measurement model for first-order reflective constructs revealed that both intention to use and perceived enjoyment exhibit internal consistency, convergent validity, discriminant validity and item reliability. The next procedure was to assess the second-order formative constructs: perceived interactivity and perceived sociality. As lower constructs have about an equal number of items (i.e. 3 or 4), the repeated indicator approach was applied (Becker et al., 2012). Accordingly, second-order factors were directly measured by all items of the corresponding lower-level constructs.

For the formative indicators, collinearity levels were assessed by means of the variance inflation factor (VIF). The empirical justification for second-order formative constructs relies on first-order constructs' intercorrelations and collinearity (Giovanis and Melanthiou, 2017). No critical levels of collinearity were found as the VIF is less than 5.0 for all items (see Tables 3.5 and 3.6) (Diamantopoulos and Winklhofer, 2001).

Table 3. 5: Perceived interactivity correlations and VIF

	UC1	UC2	UC3	UC4	RC1	RC2	RC3	S1	S2	S3	P1	P2	P3	**VIF**
UC1	1.00	0.55	0.63	0.68	0.63	0.62	0.54	0.62	0.54	0.60	0.53	0.58	0.52	2.19
UC2		1.00	0.39	0.70	0.44	0.40	0.39	0.44	0.41	0.44	0.40	0.45	0.37	2.03
UC3			1.00	0.64	0.45	0.46	0.42	0.39	0.38	0.42	0.30	0.39	0.33	1.96
UC4				1.00	0.61	0.58	0.51	0.55	0.55	0.53	0.49	0.56	0.51	3.07
RC1					1.00	0.68	0.64	0.66	0.62	0.65	0.65	0.70	0.68	2.71
RC2						0.66	0.63	0.63	0.66	0.63	0.72	0.68	2.84
RC3							1.00	0.68	0.64	0.68	0.56	0.62	0.61	1.90
S1								1.00	0.84	0.69	0.64	0.68	0.60	3.57
S2									1.00	0.72	0.60	0.69	0.65	3.85
S3										1.00	0.67	0.68	0.67	2.18
P1											1.00	0.81	0.67	3.02
P2												1.00	0.71	3.36
P3													1.00	2.15

Table 3. 6: Perceived sociality correlations and VIF

	SD1	SD2	SD3	SD4	PA1	PA2	PA3	SC1	SC2	SC3	SC4	SP1	SP2	SP3	SP4	**VIF**
SD1	1.00	0.76	0.64	0.70	0.57	0.62	0.58	0.65	0.63	0.59	0.61	0.58	0.58	0.64	0.60	2.71
SD2		1.00	0.68	0.71	0.62	0.63	0.58	0.65	0.65	0.59	0.63	0.59	0.57	0.63	0.59	2.95
SD3			1.00	0.76	0.53	0.63	0.61	0.66	0.70	0.63	0.61	0.62	0.58	0.62	0.62	2.66
SD4				1.00	0.60	0.65	0.68	0.68	0.72	0.69	0.68	0.68	0.62	0.67	0.66	3.04
PA1					1.00	0.53	0.56	0.61	0.72	0.71	0.70	0.57	0.55	0.59	0.60	1.56
PA2						1.00	0.68	0.63	0.64	0.61	0.58	0.61	0.64	0.65	0.66	1.97
PA3							1.00	0.54	0.62	0.67	0.64	0.70	0.67	0.64	0.74	2.08
SC1								1.00	0.81	0.68	0.68	0.51	0.53	0.59	0.53	2.97
SC2									1.00	0.64	0.79	0.62	0.56	0.62	0.61	3.68
SC3										1.00	0.72	0.71	0.63	0.66	0.68	4.34
SC4											1.00	0.62	0.58	0.63	0.64	3.44
SP1												1.00	0.78	0.79	0.76	4.03
SP2													1.00	0.71	0.72	4.07
SP3														1.00	0.71	4.39
SP4															1.00	4.42

The outer weights for the first-order constructs are all statistically significant at the 1% level and higher than 0.1 (Cyr et al., 2009). Furthermore, the lower-level perceived interactivity and perceived sociality dimensions have significant path coefficients. A bootstrap resampling procedure with 5,000 runs was used to obtain the *t*-statistic (see Table 3.7). For the perceived interactivity construct, the most important construct is synchronicity (0.404), followed by reciprocal communication (0.268), participation (0.257) and user control (0.166). Regarding perceived sociality, the most significant first-order construct is social connectedness (0.475), followed by personal attraction (0.271), self-disclosure (0.165) and social awareness (0.104).

Table 3. 7: Assessment of second-order formative constructs

Second-order Construct	First-order Construct	Coeficient	Std. Error	t-value	p-value	VIF
Perceived Interactivity (PI)	User Control (UC)	0.166	0.071	2.345	0.019	2.310
	Reciprocal Communication (RC)	0.268	0.094	2.866	0.004	2.480
	Synchronicity (S)	0.404	0.086	4.671	0.000	3.200
	Participation (P)	0.257	0.101	2.557	0.011	2.850
Perceived Sociality (PS)	Self-Disclosure (SD)	0.165	0.072	2.298	0.022	2.840
	Personal Attraction (PA)	0.271	0.101	2.674	0.008	1.870
	Social Awareness (SP)	0.104	0.028	3.714	0.000	3.660
	Social Connectedness (SC)	0.475	0.077	6.169	0.000	4.230

These results provide empirical evidence for the importance of the second-order constructs. Thus, support was found for hypotheses two (*H2: SCNs' perceived interactivity is a second-order construct that consists of (a) control, (b) reciprocal communication, c) synchronicity and (d) participation*) and seven (*H7: SCNs' perceived sociality is a second-order construct that consists of (a) self-disclosure, (b) social awareness, (c) personal attraction and (d) social presence*).

4.2.2. Structural model

In a second step, PLS-PM was used to test the hypotheses regarding the relationships between the proposed model's constructs. The assessment of the structural model included evaluating the structural model for collinearity issues, the significance and relevance of the structural model's relationships and the level of the coefficient of determination (R^2) (Hair et al., 2017).

In order to test for collinearity issues, two separate ordinary least squares regressions were run for each part of the model. Thus, two sets of predictors were assessed for collinearity: 1) perceived interactivity and perceived enjoyment and 2) perceived interactivity and perceived sociality. As the VIF values are below the threshold of 5.0, collinearity is not an issue.

Next, the structural model's path coefficients were considered. Whether a coefficient is significant depends on the standard error obtained by means of bootstrapping (i.e. 5,000 runs), which allowed us to calculate the *t*-value and *p*-value. Three out of the five path coefficients were found to be statistically significant (see Table 3.8 and Figure 3.5). These results provide support for hypotheses one (*H1: SCN users' perceptions of enjoyment have a positive influence on their intentions to use SCNs*), four (*H4: SCN users' higher levels of perceived interactivity will predict their higher levels of intention to use*) and six (*H6: SCN users' perceived sociality has a positive influence on their perceived enjoyment.*). More specifically, perceived sociality significantly and positively affects perceived enjoyment (beta $[\hat{\beta}]$ = 0.741), and the latter construct and perceived interactivity directly affect intention to use SCNs ($\hat{\beta}$ = 0.389; $\hat{\beta}$ = 0.168, respectively).

Table 3. 8: Structural model results

|	Coeficient	Std. Error	t-value	p-value
PE -> IU	0.689	0.040	17.417	0.000
PI -> IU	0.168	0.044	3.787	0.000
PI -> PE	0.062	0.055	1.133	0.258
PI -> PS	0.008	0.014	0.552	0.581
PS -> PE	0.741	0.058	12.745	0.000

Figure 3. 5: **Estimated proposed model**

Note: Brackets indicate *t*-statistics.

4.3. Discussion of results

As described earlier, this study strongly emphasised the hedonic component when seeking to identify the factors that – other than the films themselves – contribute to film lovers' behavioural intentions to use SCNs (see Van der Heijden [2004], Cyr et al. [2007] and Junglas et al. [2013]). The present research posited that film lovers' perceptions of enjoyment derive from socialising and associating with others through these socio-technical systems' affordances (Davis et al., 1992; Bagozzi, 2007; Junglas et al., 2013;

Shipps and Phillips, 2013; Al-Debei and Al-Lozi, 2014; Governo et al., 2017). Hedonic value, thus, was defined as a behavioural belief describing the extent to which film lovers accept they will have fun experiences when using SCN systems to interact, as well as to create and maintain social relationships with other individuals who have the same love of films (Van der Heijden, 2004; Junglas et al., 2013; Al-Debei and Al-Lozi, 2014; Iivari, 2014; Governo et al., 2017).

To test this conceptual model, the current study used a framework centred on the concept of social affordances and film lovers' perceptions. A socially functional SCN environment needs not only to consider these aspects in implementations of features but also to determine how different film lovers perceive the same hedonic space (Kreijns et al., 2004, 2007). The present research thus used a stimulus-response process related to the interplay between affordances, user perceptions and film lovers' intent to use. This means that SCNs' environmental cues function as stimuli that facilitate the development of internal states, which in turn dictate users' behaviours (Sachdev et al., 2010; Liu et al., 2016). The current study's hypotheses proposed that stronger SCN social media properties act as social contextual facilitators for film lovers' interactions and sociality, making it more likely that user enjoyment will take place and more likely this will result in intentions to use SCNs (see Kreijns et al. [2004, 2007]).

The present survey-based study found these social media affordances are crucial components of SCNs, which potentially influence the psychological processes leading to film lovers' intentions to use the Avids SCN (Liu et al., 2016). Hedonic value or perceived enjoyment and interactivity were found to be key drivers of intentions to use this SCN. The underlying antecedents of these constructs suggest that film lovers want watch and interact with others around world films. This, coupled with the finding that perceived sociality is a significant predictor of enjoyment, suggests film lovers want to use Avids to enhance their social lives and online social circles, which supports the proposed description of SCNs as 'social affordance platforms' (Ariel and Avidar, 2015).

The results (see Table 3.9 for a synthesis) also provide strong support for the current research's conceptualisation of perceived interactivity as a second-order construct. The outcomes show that all media affordances have a positive influence on perceived interactivity, which in turn has a positive impact on intentions to use the Avids SCN. However, regarding the association between perceived interactivity and both perceived

enjoyment and perceived sociality, neither of the hypotheses was supported by the empirical data.

Table 3. 9: Synthesis of main results

Hypotheses	Causality	Validated?
H1: Users' perceptions of enjoyment have a positive influence on their intentions to use SCNs.	**PE → IU**	Yes
H2: SCNs' perceived interactivity is a second-order construct that consists of (a) control, (b) reciprocal communication, c) synchronicity and (d) participation.	**N/A**	Yes
H3: SCN users' higher levels of perceived interactivity will predict their higher levels of perceived enjoyment in SCNs.	**PI → PE**	No
H4: SCN users' higher levels of perceived interactivity will predict their higher levels of intention to use SCNs.	**PI → IU**	Yes
H5: SCN users' perceived interactivity has a positive influence on their perceived sociality.	**PI → PS**	No
H6: SCN users' perceived sociality has a positive influence on perceived enjoyment.	**PS → PE**	Yes
H7: SCNs' perceived sociality is a second order construct that consists of (a) self-disclosure, (b) social awareness, (c) personal attraction and (d) social presence.	**N/A**	Yes

This result is quite puzzling since the literature reports a general agreement that interactivity serves as a relational maintenance strategy contributing to relational outcomes (Wu et al., 2013; Iivary, 2014; Ariel and Avidar, 2015). Empirical proof for the role of this construct has also been found for other hedonic environments (Huang, 2003; Skadberg and Kimmel, 2004; Chung and Tan, 2004; Gonzalez et al., 2009). One possible explanation suggested in the literature on computer-mediated communication is that interactivity can be classified into two categories. These are user-to-user interactivity, which emphasises synchronicity and communication among users, and user-to-system interactivity, which focuses on the technological characteristics or information exchange with the website (Hoffman and Novak, 1996; Zhao and Lu, 2012; Hu et al., 2016; Liu et al., 2016).

Regarding items evaluating the construct of perceived interactivity in the present study's survey, film lovers placed significantly greater importance on synchronicity, followed by reciprocal communication – both related to an interpersonal communication perspective. Participation and user control are, on the other hand, more strongly related to user-to-system interactivity (McMillan, 2002; Chang and Wang, 2008). Having the necessary technology available does not mean that interactions are always perceived as fun.

Some film lovers may not consider a sense of control – although important – as contributing to making SCNs entertaining. The same happens with participation as this is only perceived to be significant when cinephiles want to contribute their knowledge. Some film lovers might not want to invest much cognitive effort into contributing information to the platform by commenting, reviewing or even sharing their film experiences (see Ariel and Avidar [2015] and Hu et al. [2016]). In addition, more socially reclusive film lovers, by definition, will always strive to avoid social interactions, but these individuals may still want to maintain their social connections.

As previously suggested, SCNs serve as affordance technologies that enable social interactions contributing to sociality. Nevertheless, actual interactions may not determine sociality on these platforms. As can be seen from the present proposed model, interactivity and sociality are two different constructs. A platform might have high levels of sociality and low levels of interactivity, and vice versa (Ariel and Avidar, 2015). This resonates with the current study's argument that, although SCNs can be seen as affordance technology enabling interactivity, sociality exists only when film lovers become friends by way of a friendship feature, and refer to one another's content and encourage further interactions (Chesney et al., 2014; Ariel and Avidar, 2015).

The second SCN scenario can include a high level of sociality and a low level of interactivity. In this scenario, many film lovers want to belong to the Avids community but only as non-interactive film lovers. Examples of this are popular platforms that have many visitors who 'like', 'share' and even write posts, but their contributions either do not refer to previous posts or do not encourage further interactions (Ariel and Avidar, 2015). Nevertheless, it is the actual involvement, interaction, and activities performed by film lovers over time that may increase or determine the sociality within the SCNs (Chesney et al., 2014; Ariel and Avidar, 2015).

The existing literature shows that individuals use IS applications to socialise and maintain relationships (Junglas et al., 2013; Iivary, 2014), but earlier quantitative nomothetic research on the use of OTT film sites for sociality around online films has been largely omitted (Governo et al., 2017). Baumeister and Leary (1995) and Smith and Mackie (2000) describe film lovers as possessing an innate psychological drive to belong to groups and take part in meaningful social interactions. Although it is well established in theory that a sense of social connection forms the basis for creating strong, long-lasting interpersonal bonds (Baumeister and Leary, 1995), there are relatively few references to

the set of social affordances that impact the adoption of hedonic ISs such as SCNs (Bradner, 2001; Rettie, 2003; Kreijns et al., 2004, 2007).

The present study thus proposed a new construct – perceived sociality – to capture this social motive to use hedonic IS applications for films. Despite the limited research context of film lovers, sociality was shown to be overall an important precursor influencing intentions to use Avids. In our analysis, we also examined if sociality mediates the effects between each of the proposed antecedents and perceived enjoyment. In the model shown above in Figure 2, this means that perceptions of enjoyment are fully mediated by sociality. Regarding sociality, this study revealed that SCNs need to maximise the extent to which they provide social features related to self-disclosure, social presence, social awareness, personal attraction and perceived social connectedness. These features will most likely fulfil film lovers' desire to socialise and associate with other cinephiles (Phang et al., 2009; Junglas et al., 2013).

In addition, as hypothesised, film lovers place greater importance on social connectedness. When the focus is put on social connectedness, however, this highlights personal attraction as another dimension that helps to explain SCN usage intentions. Since film lovers' social wellbeing is determined by belongingness, both social connectedness and personal attraction emerge as the most important aspects affecting their motivation to use SCNs (Rettie, 2003; Kobler et al., 2010; Visser et al., 2011).

As mentioned in prior studies, cinephiles have a greater tendency to associate, bond and interact with others when they perceive similarities such as preferences, attitudes and tastes. Thus, film lovers urgently seek channels to meet their need for belongingness and exhibit their real selves (McPherson et al., 2001; Ren et al., 2007; Bisgin et al., 2012; Hu et al., 2016). Hence, our results support that the Avids SCN —by providing peripheral awareness and plentiful but optional information about others (e.g. presence, availability, activities, tastes), and a mechanism to develop an affective bonding relationship, is in fact, a viable space to communicate, to share emotions and film-related activities and support film lovers' need for social connections (Kobler et al., 2010; Visser et al., 2011).

5. Conclusions

With digital media technologies pervading daily life, the way film lovers experience films has undergone a major shift. The strong momentum of media changes and the related

social revolution has transformed a formerly communal activity into a more individualised and socially fragmented experience (Behlil, 2005; Webster and Ksiazek, 2011; Gubbins, 2014; Adolf and Deicke, 2016; Wiard and Domingo, 2016; Governo et al., 2017). The number of media outlets competing for film consumers' attention has also been growing steadily. However, most OTT film providers see film lovers as solitary information processors, which means providers have put their efforts almost entirely into offering video content. They have failed to create a common locus of social activity in which films are seen as communication and relationship anchors (Marie et al., 2011; Webster and Ksiazek, 2011; Junglas et al., 2013; Oestreicher-Singer and Zalmanson 2013; Governo et al., 2017).

The present research focused on a new generation of film lovers who derive pleasure from going online not just to watch films but also to stay connected and share social practises, values and discourses with other cinephiles (Behlil, 2005; Junglas et al., 2013; Wiard and Domingo, 2016). Confronted with a market of film lovers craving to belong to a worldwide community that shares the same tastes in films, we developed a film-centred social network for those dissatisfied with their OTT mainstream services. We sought to appeal to cinephiles who exhibit a desire for online social relationships nearly as rich and meaningful as those in real life (Bouman et al., 2007; Marie et al., 2011; Akgun, 2014; Adolf and Deicke, 2016; Ooyala, 2016; Wiard and Domingo, 2016).

The current study developed a conceptual model primarily to determine whether film lovers' perceptions of the affordances of our SCN system could contribute to these cinephiles' intention to adopt other SCNs. Our research showed that intentions to adopt these systems – and thus the potential demand for SCNs – is not only a function of seeking gratification through films but also of perceived interactivity and the perceived pleasure of belonging to a worldwide group of film lovers with the same tastes in films. The study's results clearly demonstrate that SCNs can provide a valuable space for film-related social interactions and offer features that are positively connected to social cohesion and integration of film lovers worldwide into online communities. Thus, by offering a new film service with this set of social attributes, the purpose of SCNs is as much about fulfilling film lovers' entertainment needs as it is about fulfilling their social needs. What used to be a minority taste in film lovers' social surroundings is no longer a minority in SCN contexts. By connecting cinephiles to likeminded others, SCNs foster a sense of purpose, belonging and attachment central to the concept of film-related communities

(Behlil, 2005; Parks, 2011). Time that was previously spent on several platforms across the Internet can now be used more efficiently for film lovers' consumption of content, community building and engagement. Cinephiles may often feel alone in their passion for films, but, by watching films in SCNs, film lovers will become part of a lively, robust global film culture.

5.1 Main theoretical contributions

The main purpose of the current research was to examine the factors influencing the intentions of online film lovers to use a new hedonic IS and/or IT system. In reviewing the literature, we found interactions and social relationships between film lovers – as an emerging online phenomenon – has not received adequate attention (see Junglas et al. [2013] and Shipps and Phillips [2013]). Building on a socio-technical perspective, the present research model incorporated the relatively less studied interactivity and sociality perceptions and their link to intentions to use a new hedonic IS and/or IT system (see Junglas et al. [2013]). From a theoretical point of view, the current study's findings contribute to the existing literature, first, by providing a fuller understanding of which components shape perceptions of interactivity and how important interactivity may be in SCN contexts. Second, our findings confirm the crucial role of sociality, namely, film lovers' desire to develop and maintain social relationships centred around films in the nomological network. By recognising the impact of sociality factors on perceived enjoyment, this research's results contribute to a deeper understanding of the critical factors – other than films – that enhance the hedonic value of SCNs.

Our findings are consistent with prior studies. While previous research had already investigated the antecedents of perceived enjoyment in other online services (Van der Heijden, 2003; Shin, 2010; Chen et al., 2016), the present study advanced this knowledge further by examining factors that enhance perceived enjoyment in SCNs. Junglas et al. (2013) and Livary (2014) also found a concept corresponding to sociality to be a significant predictor of enjoyment in hedonic IS and/or IT applications such as Second Life and Facebook. This means the concept of perceived sociality is potentially significant to any hedonic IT application in which users perceive that they can communicate and associate more easily and enjoyably with each other through IS and/or IT artefacts (Iivary, 2014).

In addition, the present study's findings contribute to the existing literature by revealing how different dimensions of sociality are weighted by film lovers when seeking others to form relationships around films. We thus expect that the results of our study will be relevant to research that re-examines the effects of the media affordances of specific entertainment-oriented technology based on social platforms.

5.2 Practical implications

Our results also have practical implications. These findings can help OTT providers understand factors other than the films themselves that drive users' enjoyment and contribute most strongly to intentions to use film services. We have demonstrated that interactivity and sociality are important aspects of the development of film applications, providing ample evidence that a social component plays an important role in the prediction of usage intentions. By explaining why and how SCN systems increase film lovers' perceived interactivity and sociality, our results indicate that media companies should consider a new social and technical interpretation when seeking to develop or improve their services and enhance their sites' competitive advantage.

These findings suggest these companies can function not only as platforms that deliver films but also as tools for helping users communicate and associate with other individuals around films (Liu et al., 2016; Governo et al., 2017). Thus, the proposed model can be of great value to OTT film providers by guiding them to apply socio-technical thinking to developing innovative services with media capabilities that meet the needs and sensibilities of different film consumers. Integrating a more salient social dimension into film services may be an inevitable trend that helps providers acquire potential new consumers (e.g. forum users) and retain old ones. This may include offering optional features to subgroups with specific preferences.

5.3 Limitations and paths for future research

As is true of any research, this study also has its limitations. Our intention in this research was not to compare SCNs directly with OTT film providers in terms of interactivity and sociality as they do not have the same attributes. Synchronicity in reciprocal communication and social connectedness, for example, do not exist in current OTT film

providers. Rather, we explored interactivity and sociality as precursors to intentions to use SCNs. This thus limits the transfer of these findings to other OTT film sites.

However, as more OTT film providers start to exhibit further features related to our model's constructs, more of this study's findings can be generalised to other OTTs. Future research may, therefore, be able to compare different OTT film systems by looking at how differences in the interactivity and sociality afforded can impact system usage intentions (see Junglas et al. [2013]).

In addition, due to the specific characteristics of the present study's respondents, the insights and perceptions of general film consumers were not taken into account. While this sample may be representative of a population comfortable with streaming films online and social media activities in film-related environments, the results cannot be extended to the general population of film consumers using mainstream OTT film sites.

With respect to recommendations for future research, we found that IS hedonic technology acceptance and adoption models need to be more carefully focused on incorporating individual users' interactivity and sociality. Other dimensions of interactivity, such as flow experience (see Sherry [2004] and Hoffman and Novak [2009]) and intimacy (see Zhao and Lu [2012]), should be incorporated in future studies to obtain a more comprehensive framework. We expect that, when more media features are included in SCNs, more of these systems will be positively associated with perceived interactivity. In addition, the better film lovers understand SCNs' underlying media capabilities, the stronger their intentions will be to engage with these systems (Liu et al., 2016).

Our data suggest that a reasonably high percentage of respondents would rather use Avids than other OTT film providers — even though this system is a prototype and may have a subscription fee. It would be interesting to contrast in future research, how a same level of 'film repertoires' would affect the intention to use a SCN, when compared to other OTTs. The innovative nature of the prototype SCN also limited us to relying on intentions to adopt SCNs as the dependent variable. A study that includes actual behaviours as a dependent variable could thus be a rewarding avenue for further research.

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Conclusion

It is impossible today to imagine the world without the Internet and films. Films, however, can be different things to different audiences. While for most consumers watching films online is enough, for film lovers, the intentions to adopt online film systems is not only a function of seeking gratification through films but also of perceived interactivity and pleasure of belonging to a group with the same tastes in films. Our research has demonstrated that not only interactivity and sociality are important aspects in the development of film applications, but has also provided ample evidence that a social component plays an important role in the prediction of usage intentions of hedonic IT applications.

The scene is now set for media entrepreneurs to take in consideration film lovers' desires and offer SCNs services that could launch niche films into a new age of entertainment (Akgun, 2014). If media entrepreneurs want to establish a market that caters to special groups, SCNs can be vital; film lovers feeling marginalized by mainstream services will likely be thrilled to have a platform that caters to them.

In the long term, we believe that SCNs will boom as niche businesses because they meet film lovers' demands: SCNs provide a single platform to watch films, for film-related social interactions and features for social cohesion and integration (Akgun, 2014). This suggests that SCNs may open up the possibility of a much wider distribution for niche films and become a critical tool, not just to watch and promote content (by framing world films in a discursive context), but also as a mechanism of reimbursing filmmakers in a struggling market as well as supplying audiences passionate about niche films (Gubbins, 2014).

On the other hand, with more consumers going online, it is expected that mainstream OTT video providers will continue to refine their existing platforms. Our essays and results indicate that these OTT media companies should consider a new social and technical interpretation when seeking to enhance their sites' competitive advantage. Designing for functionality is not enough. OTT video providers need to understand how technology can support social interaction and design for sociality. Thus, the proposed SCN model can be of great value to OTT film providers by guiding them to apply socio-technical thinking to developing innovative services with media capabilities that meet the needs and sensibilities of different film consumers. OTTs' survival may depend on their

ability to attract and retain members that want to participate more actively in their platforms. Integrating a more salient social dimension into film services may be an inevitable trend that helps providers acquire potential new consumers and retain old ones. This may include offering optional features to subgroups with specific preferences.

While this research takes some early steps towards film integration in theoretical, conceptual and in empirical terms, much remains to be formalized in practical terms. The social architectural affordances of Avids need to go beyond the conceptual model, and be incorporated in the everyday life ecology of media habits. Potential answers to questions about the dynamics of film lover's consumption, preferences, social behavior or even the role of films as sources of taste reflexivity and social organization can only be revealed in the domain of social multimedia computing.

But how can we impart to the new generation a taste for world films when world films no longer form part of their experience? We argue that researchers and media companies bear a heavy responsibility here. The enabling technologies for the proposed socio-technical system are already available. SCNs can be a driver of economic growth and prosperity for the niche media industry. Thus, the next step is for both media entrepreneurs and researchers to take the lead in using them for social change and for deploying SCNs.

SCN data, however, will exhibit unique characteristics and great challenges. As many of the new topics involving multimodal data, e.g., text, image, and video, will arise, entrepreneurs must pave the way for multidisciplinary research (Naaman, 2010; Marie et al., 2011; Lee and Chen, 2013. By framing research questions around managerially and multimedia relevant problems, they will improve not only the magnitude and likelihood of entrepreneurial success, but also the existing SCNs applications and spawning novel attractive features.

We are now in a stage where we can put together a research agenda that may highlight the characteristics of film lovers as members embedded in SCNs, understand their levels of involvement and analyze their place in the greater spectrum of media and interpersonal social habits. Without a sense of how film consumers use SCNs in their everyday lives, any discussion of SCNs cultural or social impact is likely to be based on a series of fundamental misunderstandings.

We hope that our initiative will catalyze further research to shed light on the interrelation of online film infrastructures and the current social organization around world films (Adolf and Deicke, 2015). If researchers continuously understand the drivers behind the acceleration of world films and identify some enablers and challenges that could facilitate its adoption, we believe more academic articles will be forced to address the growing economics of world films in the online ecosystem.

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