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METADATA ENRICHING TECHNOLOGY AS THE KEY TO EFFECTIVE TARGET AUDIENCE ENGAGEMENT AND CONTENT MONETIZATION

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ABSTRACT

Lately there have been noticeable traces of a consumption pattern change in today's society that catalyzes various trends in the overall approach of commercialisation and distribution of media. This technical paper identifies whether metadata enriched content can be the key to effective target audience engagement and content monetization. The study of this topic will reveal if the implementation of a 2nd screen mobile application could be a novel solution for the media industry to meet the demands of the hedonic, digitalized trends that are currently affecting media consumption and consumer behaviour. Through theoretical and empirical research this paper studies briefly the principals of metadata, the current changes in media, experiential value of products and the usage of 2nd screening. The graphs included in this technical paper were composed in cooperation with Living Labs, the research division of iMinds, the world's 4th best business accelerator, within a three months active testing phase of a 2nd screen application called Spott designed by Appiness.

INTRODUCTION

The economy and its way to market its goods and services have been changing over the last decades. With the social transformation and the trend towards a pleasure and leisure oriented society, economic variations and new orientations have been established. Lately there has been a significant shift towards more intentionally experiential marketing solutions away from its initially straight face-to-face approach. (Pine II und Gilmore 2014) Customers seem to seek experience and value the act of buying a product as much or even more than the product itself. True economics and pioneer businesses are responding to the new desires of their customers and start explicitly designing and promoting experiences around their product and/or service. (Pine II und Gilmore 1998) Especially already emotional commercialized products/services are suited for this new marketing approach.

Alongside the changes in the consumer behaviour of its clients, the media industry is also undergoing rapid change along the entire value chain. Propelled by its continuously rising consumer demand, digital technology and ubiquitous connectivity, trends are emerging at rapid speed around social media, mobile devices, cloud computing, real-time bidding, micro-transactions and programmatic buying. These trends alter the way society access, consume, and pay for media. Thus creating endless consumer choices, from infinite

device options to a choice of print vs. electronic, linear vs. on-demand, free vs. pay, own vs. rent, and transactional vs. subscription. The associated business model changes in this regard are profound, given that digital technology empowers companies to reduce boundaries between the individual steps in the value chain: aggregators and content producers are pursuing direct-to-consumer opportunities, distributors are moving into content production, and hardware producers are offering integrated solutions—combining devices, operating systems, and content access on one platform. (Bruns, Burgess 2015) (Artz 2015)

Aim of this paper is thus to examine a new interactive solution for media players to engage their target audience according to the needs and demands of the hedonistic society according to the fast emerging trend of experience marketing and satisfy its own demand to monetize its content within a successful business model.

In general, the following key words are essential for a successful literate review search: experience marketing, consumer experience, viewer experience, 2nd screening, mobile application, consumer engagement, content monetization

AIM AND OBJECTIVES

Overall Aim

The overall aim of this technical paper is to identify whether metadata enriched content can be the key to effective target audience engagement and content monetization. The study of this topic will reveal if the implementation of a 2nd screen mobile application could be a novel solution for the media industry to meet the demands of the hedonic, digitalized trends that are currently affecting media consumption and consumer behaviour.

Overall Objectives

Research questions, which should be answered with the objectives of this technical paper in order to meet the final aim of this work, could be:

How can video content be enriched with metadata? How can the metadata be made accessible to the target audience? In what way are the viewers ready for an interactive 2nd screen experience? Will engaging the target audience through interaction with the 2nd screen affect the loyalty and enrich the viewer experience? Are there new ways to monetize content and engage the target audience at the same time?

Re-framing these questions into statements, the following research objectives can be concluded:

Analyze the process of enriching video content with metadata. Explore in what way metadata enriched content can be implemented into a 2nd screen solution. Examine the acceptance rate of consumer interaction with 2nd screening through analysing their Roger's Curve. Unravel the relationship between content interaction and content perception through active testing of a 2nd screen solution. Understand the possible relationship between monetization and customers' engagement in regard of the current market changes.

These objectives need to be proven with according literature, already existing brand experience theory and own conducted empirical test results. If some or all research question can be proven as relevant and accord, the research objectives can be used as a base for the implementation of a technology enriching video content with metadata in form of a 2nd screening application to engage the target audience in an experiential, interactive way, which will also affect the monetization of the content.

FINDINGS

Theoretical findings

Since the exploration of the benefits of adding metadata and the implementation of experiential factors in marketing strategies are an up to date trend and frequently applied method, there exists several practitioner-based articles and trade press, books, quality news media articles and industry reports, which address the technical paper subjects. Especially due to the recent developments and lately applied methods of famous entrepreneurs, the topic of this technical paper has a relevant significance and scope.

In order to address the topic of this technical paper in a structural, profound way, the search for theoretical findings is separated into two different steps. The first part of literature research is dedicated to the technology and industry based side of the topic. The second part of the theoretical findings of this paper addresses briefly the principals of experience marketing and its answer to the current consumer behaviour changes.

To start the technical research for this paper, it is important to first of all establish a definition of metadata. This paper relies in this regard on Douglas Bowman's, Arijit Chakravarty's and Anthony Davies' (2015) definition of metadata as "the nonimage data about the image, experiment, detector, processing of the image data, etc. that is stored in association with the image data". (Bowman, Chakravarty, Davies 2015 p.87) Attributes of metadata can include detector types, pixel sizes, experimenter names, projects or datasets names and experimental condition information. Important to mention in this regard is that metadata and image data are essentially different types of data and are stored most of the times separately. Whereas metadata is stored in text files or databases with direct pointers to image files, image data is stored in a file system dedicated to image storage. In order to store both of the data together and guarantee a direct link between the both, the metadata needs to be encoded with the image data into a common file format. These file formats are then stored in an overall database, which can become an essential part of a high content screening environment linked to the management of data created by screening instruments. Due to the numerous appearances of databases, which range from simple spreadsheets to vendor-supplied high content screening applications, the major task in this regard is the full integration of all databases in the overall environment of the screening technology. (Bowman, Chakravarty, Davies 2015)

Metadata is according to Foulonneau and Riley (2014) generally created to fulfil a specific purpose and is linked to various functions to be performed on digital resources such as interpretation, discovery, preservation, representation or management of objects within the digital content, (Foulonneau and Riley, 2014) which leads to the industry based part of the technical finding part of this paper. What if one could link metadata to any type of content

in order to discover and detect every displayed item within the content and make it shoppable through combining image data with metadata linked to online stores in order to create a new monetization model of content? The media industry is undergoing rapid chances and the monetization of content and scalability has never been as crucial as it currently is. Media businesses are suffering of the lack of perceived authenticity of its content and the unstable loyalty in regard of consumer audience rate. Through new media in form of multi channel networks, new platforms such as Vimeo or Vine and self-made Youtube stars, the media landscape is filled with various content, which increases the competition and affects the loyalty of the audience. Audiences are fragmenting and media companies will need to expend their effort to attract and manage these audiences, along a plethora of platforms and content owners. As Lee Artz (2015) mentions in his book 'Global Entertainment Media: A Critical Introduction' local media has now become transnational media with a broad reach with also increased competition environment. The new transnational market circumstances require a capalist drive and ambition in order to be able to reconstruct the media production and content to meet the demands of the now transnational audience. (Artz 2015) Advertisers are also increasingly valuing deep engagement and an audience niche over pure volume. Sophisticated editorial processes, content management, and cross-channel audience measurement will be thus essential to success. Bruns and Burgess (2015) trace back the changes in the media industry mainly to the customers' demand for endless content regardless of the type of network. Content providers any form started to enter the value chain and filled the gaps between different networks and the other vaule chain components. This leaves the ,old, existing' media players to come up with new business ideas that engage their target audience on a personal, interactive level in order to increase their audience's loyality. (Artz 2015) (Bruns, Burgess 2015)

Creating authentic experiences started to matter now, even in a digital world. There are many examples, from the steady growth of concerts and festivals to strong box office performance. In spite of the threat of OTT, live TV shows are extremely popular, not to mention sporting events, which tend to have powerful audience appeal and strong brand impact. Where possible, media companies should take advantage of the "live" phenomenon and provide consumers with unique and premium experiences connected to their propositions—experiences that are difficult to replicate in the digital world. This leads to the experiential research factor of this paper and to Joseph Pine II and James Gilmore, who are pioneers in publishing scientific business articles about customer experience and the need to adapt to the ongoing social behavioural change of society. They've composed various articles (1998, 2007, 2008, 2011, 2014), which state the necessity to implement customer experience with long lasting benefits into companies' business models. They state in one article that "the best way to generate demand for any offering in today's experience economy is with an experience so engaging that customers can't help but to pay attention and buy that offering." (Pine II and Gilmore 2014 p.28) Yasushi Kusume and Neil Gridley agree with Pine II and Gilmore and add to their research results that design also plays an important role in creating a series of experiences that increase customers' satisfaction, bonding and loyalty. (Kusume and Gridley 2013) Vargo and Lusch examine 'costumer experience' from the economist's point of view and understand the concept of experience marketing as a service dominant logic, which results in a shift from a product centric view to a creating value approach. (Vargo and Lusch 2004) Newsom, Collier and Olsen (2009) even go one step further by introducing the concept of 'biztainment'.

Biztainment describes the process of adding entertainment content to the company's product or service in order to increase the company's brand value perceived by the customer and gain competitive advantage. These entertainment contents again belong to customer experiences. (Newsom, Collier and Olsen 2009)

Overall all authors agree on the point that the ultimate goal of experience marketing is delivering brand experiences in order to effectively communicate the brand promise to the customers, offer them additional hedonic value and emotionally stimulate them. As a result, positively perceived brand experiences develop brand awareness, strengthen brand loyalty, create brand value and arouse customer delight/satisfaction. Furthermore, a customer who enjoys emotional brand experiences, and thus perceives the brand as being affective, builds trust in the brand, which in turn strengthens his/her brand relationship. Most of the researchers even indicate that the implementation of experience marketing into brand management implies monetary gains and influence in consumer behaviour. (Holbrook and Hirschman 1982) (M. L. Richins 1997) (Pine II und Gilmore, 1998, 204, 2014) (Vargo and Lusch 2004) (Brakus, Schmitt and Zarantonello 2009) (Newsom, Collier and Olsen 2009) (Kusume and Gridley 2013)

The big question is now on how to combine metadata, the need for new monetization models in the media industry and experiential value within one solution.

Empirical findings

Appiness has developed a Media Processor that enriches video files with metadata linked to e-commerce stores in order to generate new revenue streams for content owners and engage the target audience in a novel, experiential way. The three core assets of Appiness' Media Processor are time-stamped key frames, a dynamic e-commerce database and an ad-hoc Content Management System (CMS).

In time-stamping key frames, Appiness combined proprietary and off-the-shelf technologies in order to develop an innovative technology novel to the media industry. The dynamic e-commerce database is a proprietary development designed and built within a scalable backend capable of handling millions of products and automatically updating their related metadata, e.g. pictures, prices, url's and descriptions. The CMS is a proprietary development enabling content managers to process key frames and related data in a fast, intuitive, and efficient way. The system leverages tools such as frame creation and selection, automated facial recognition, semi-automated image searches through machine learning, and easy-copying/replication features. Put together through a proprietary architecture and processing flow, these assets provide what the developers of Appiness believe is the most advanced, cost effective, and scalable solution in the market. Aligned to the first research aim, Appiness thus achieved to enrich video content with metadata and implement it into an easy integrative technology.

Therefore, Appiness is allowing content producers, distributors and broadcasters to combine the reach of TV with the targeting power of digital media and the revenue generation power of e-commerce. This new solution to monetize content is also creating a platform that enables (via API links) set top boxes, applications and other devices to engage its audience in an experiential, interactive way. Appiness' technology can be implemented within a white label solution or can be downloaded with Appiness' own integrative 2nd screen application called Spott. Interacting with editorial and commercial

content has never been that enjoyable and effective due to Appiness' very easy accessible and implementable technology. Appiness thus found a way to implement metadata enriched content into a 2nd screen solution and provides the answer to the second research aim of this technical paper.

Furthermore, Appiness is achieving to gain valuable insights into the viewers' consumer behaviour, which illustrate how valuable content is to product placement deals. This way Appiness is establishing a solution to increase the monetization of content and making television advertisement more valuable through direct consumer interactions. To test if Appiness also found a solution to implement experiential value into the media industry through its 2nd screening solution, experiments were conducted by iMinds Living Labs in 2015 with a broad target audience of 500 diverse users to explore their engagement with the content and their overall viewing experience.

As mentioned above in the research aims, it is important in this regard to examine the consumers' acceptance of interaction with 2nd screening through comparing their adaptation curve with the Roger's Curve. With 75% of the adoption rate covered by Innovators and Early Adapters, the test showed that the adoption rate of the usage of the second screen application is much higher and faster than the standard innovation rate (see Rogers in Shuen, 2008). This can be interpreted as a genuine user acceptance of interacting with 2nd screen technology.
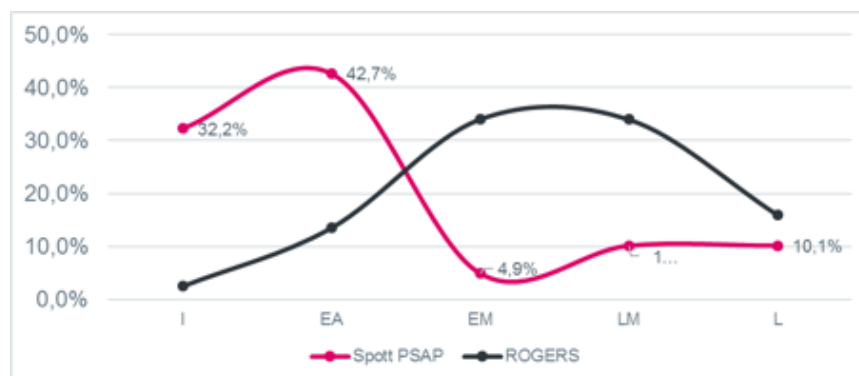

Figure 1 2nd Screen Application vs Roger's Curve

Another research aim of this technical paper is to unravel the relationship between content interaction and content perception through active testing of a 2nd screen solution. The 3-months test in cooperation with iMinds Living Labs, a Belgian applied research lab, proofed that the 2nd screen application was not only considered as fun (see also adoption rate above), but also very functional (=useful). By questioning the participants it can be concluded that scrolling through the 'spotted' items detected within the content is perceived as being not only entertaining but also educational, since the user would now finally know, which exact item is displayed in the content and where it is purchasable. Because of the many features Spott offers, people used it more than expected, which is indicated by the growing percentage of the fun/functional parameter demonstrated by the graph below that led to an increase in usage. Also notable is that the functional parameter extended even the fun parameter over the period of usage.
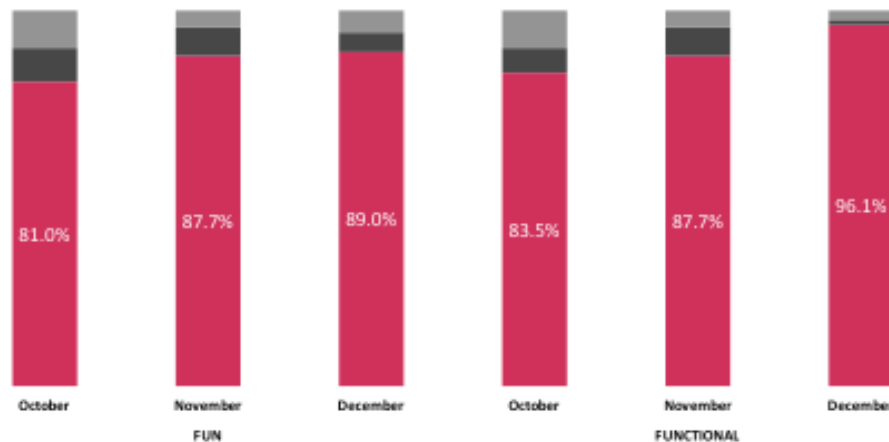
Figure 2 Fun perception vs functional perception

As a result, the relationship to the content itself thus also changed. Watching and engaging with the content became not only a leisure, fun experience but also a usage orientated experience with additional value of know how (what specific items are displayed in the content) and interaction (with one click users can now buy what they see in video content). This underlines the co-relation between increasing the value of the product through enriching it with an experience as mentioned by Holbrook and Hirschman (1982), Pine II and Gilmore (1998, 2011, 2014) Vargo and Lusch (2004), Brakus, Schmitt and Zarantonello (2009) et. al. The test results also showed that the 2nd screen usage would not disrupt the viewing experience. Because of the interactivity of relevant information on 2nd screen with the 1st screen, users clearly saw the service as enriching the viewing experience.
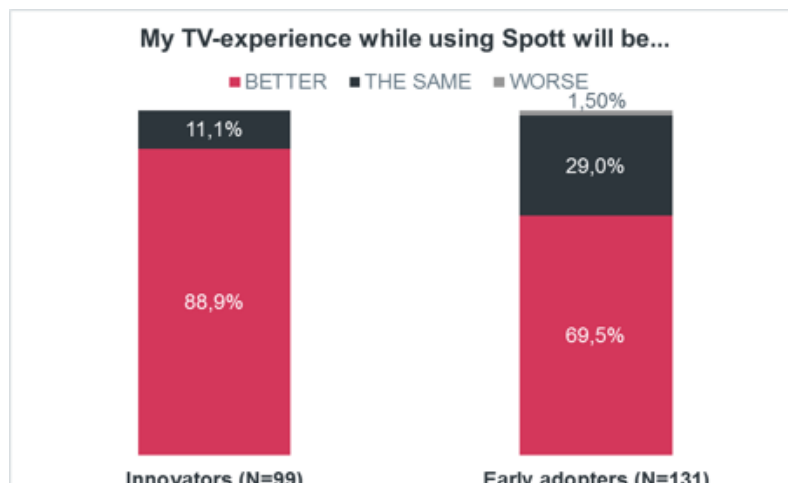

Figure 3 Enriched perception of the content

The last but not least research aim is to understand the possible relationship between monetization and customers' engagement in regard of the current market changes. The experiment clearly showed, that Spott is able to not only enrich the viewing experience, but also triggers the consumers to impulse buying whenever the user gets inspired by the content. The figure below shows the results from questioning the innovators and early adopters about the likeliness to use the app to buy something they see in video content. The result shows that at least 24,4% (Early Adopters) would be likely to buy something at least once a month through the 2nd screen application whilst inspired by the content.
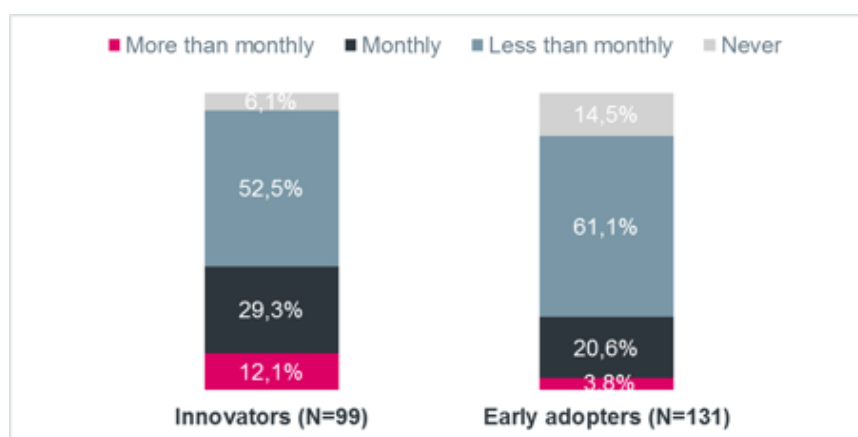

Figure 4 Likelihood of using the App for purchase

To analyze whether this monetization value can also be traced back to an enriched viewing experience of the content, one has to examine the overall usage of the application linked to the trigger of impulse buying. When looking at the usage of the 2nd screen application, it goes much further than only interacting while watching content. During the test only 33% of the users used it for functional recognition (mainly male, who perceived the service as a Shazam for television). About 57% used Spott during and after the viewing experience not only for recognition but also for inspiration (mainly women, who perceived the service more as a Pinterest for television). Thus one can say that the monetization process of the content is clearly linked to the experiential factor of the enriched viewer experience.
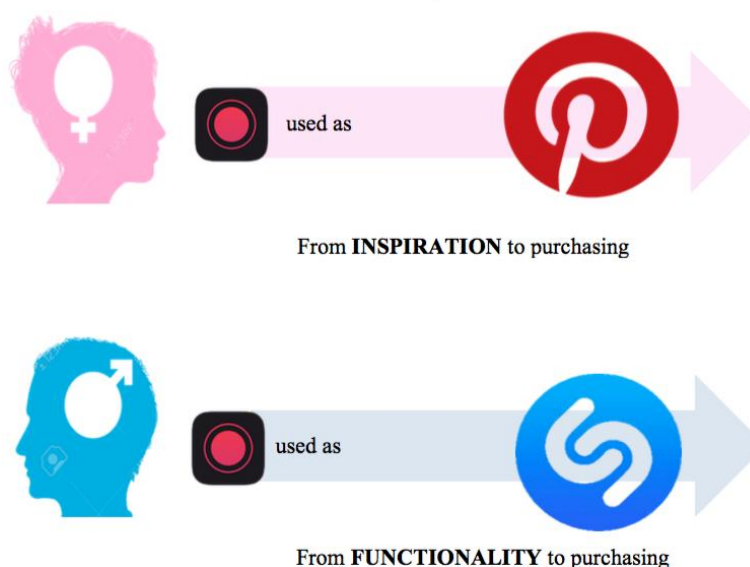
Figure 5 Perception of the 2nd screen application

CONCLUSION

Metadata can be used to interpret, discover, preserve, represent or manage objects within digital content. Appiness demonstrates with its proprietary developed Media Processor that it is possible to detect displayed objects within digital content and make them purchasable through enriching the content with metadata linked to e-commerce stores. Through its three core assets of time-stamped key frames, a dynamic e-commerce database and an ad-hoc Content Management System (CMS), Appiness found a way to create a new monetization model of content and generate new revenue streams for content owners. Given the results of the test conducted by iMinds Living Lab, Appiness' technology can overall also be summed up as an enrichment of not only video content but also of user experience, both on an application level (with wish lists, spotting and buying items) as on a contextual level (with a promised enriched TV-experience). Appiness satisfies the end-user's need of finding and buying products that appear in TV-programs, whether they are locally or internationally. With high levels of perceived enjoyment, ease of use (see figure 1) and usefulness, the technology lives up to the expectations of the test users (see figure 3).

Comparing the aspects of the theoretical and empirical findings of this technical paper one can say that metadata enriched content accessible through 2nd screening can be regarded as the key to effective target audience engagement and content monetization

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