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DIM 107 – MEDIA MANAGEMENT AND MARKETING COMMUNICATIONS

Streaming Company Management on Example of Netflix

by

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ABSTRACT

The paper aims to investigate how various media businesses operate and do marketing. Netflix was selected as an example of a media streaming company, because it is considered to generate one third of the Internet peak downstream traffic within the USA and appears to be leading company in the streaming market competition. Based on the Netflix example an analysis of dynamics in transformations of media managing principles which existed and were in use during the last decade has been made. The business operation model that is utilised by Netflix was studied. Analysis of existing business management techniques, which are used in multimedia corporations, has been made, and a number of successful practices of application of management approaches and principles were determined. The analysis of the managerial approaches helped to understand current tendencies that exist today in the stratum of cloud streaming services and media streaming companies. Research on existing management strategies and technological implementations of streaming services has been conducted. Books, journals and online articles devoted to the issue of network streaming and to the issue of managing of media and streaming services were studied. Number of youtube talks and performances has been reviewed. Technological aspects of implementation of video streaming were researched and analyzed. The research has shown on example of Netflix, that the biggest challenge for multimedia streaming corporations is to grow the number of their subscribers and to stay ahead of competitors in the persistent challenge of the free market.

Introduction

“At the end of the first decade of the 21st century, traditional linear television began, with greater precision, a transformation process towards online television, which continues to this day” (Cousillas, 2019). Media companies mushroomed after the emergence of the Internet and formed a competitive large scale market. A tendency to shift from scheduling to catalog emerges consequently (Lobato, 2018). However, the catalog is very large and to select from it requires either sophisticated algorithms or a very specific narrow request. Otherwise it is complicated to navigate with search requests the terra incognita - the database, which consists of thousands of entries.

Netflix was founded August 29, 1997 in California by software engineers Reed Hastings and Marc Randolph. They started with delivering DVD videos over the snail mail. Disks were compact and light, and cheaper to deliver compared with VHS media tapes. After the burst of dotcom and laying off 50 employees, the rest of the team enforces their efforts and the situation improves. “By May 2002, Netflix was doing well enough to go public, selling 5.5 million shares at \$15 a share” (Nocera, 2016). However, in 2007 it moved after the video-on-demand approach introduced by Amazon in 2006. DVD technology becomes obsolete for video delivery purposes as no one uses dvd anymore. “In 2007, Netflix placed 10,000 titles from its 90,000 film library online in ‘Watch Instantly’ mode as a free value-added service to its large base of existing customers who had to use their ID and password to watch those films” (Wayne, 2017). Wayne adds : “For Netflix, linear television networks are competitors whose brand identities reduce Netflix’s own brand equity”. Consumers are using the Internet and IPTV. Competitor of Netflix, “Amazon, first and foremost an e-retailer, primarily uses SVOD to drive customers to its Prime membership program whose members make more purchases more often than non-members” (Wayne, 2017).

Kathlen Eisenshtein in her talk on the subject of importance of simple rules points out that when DVD business got dying Netflix got to the streaming without having any content. She states that they do have good writing. She argues that Netflix breaks all TV rules, and “copies more The Sopranos like rules” (Eisenhardt, 2015). She stresses that they do not only break writing rules but that they also run to a new bottleneck that is directing and “particularly David Fincher becomes their director”. After he becomes the leading director he brings in other outstanding directors including Allen Coulter. And those directors are using their own people which they are free to hire for whatever number of episodes they need to. They use stationary cameras to get a cinematic quality. She underlines that they also break hiring rules hiring A-list directors and actors.

However, today Netflix’s subscription is affordable and easy to enter and leave. The cost of a basic subscription package doesn’t exceed \$10 to \$12. C. Egert, a researcher from France, observes the situation with Netflix’s expansion to their country underlining that in 2014 Netflix came to the market, and despite two major competitors such as TV group Canal+ and

“incumbent telecom operator Orange”, it “has been highly successful” (Egeret, 2018). They say that Netflix signed agreements with three main IPTV providers in France: “SFR, Bouygues and Orange”, where they acted in a cooperative way with Orange. The author points out that without agreement with French operators Netflix couldn’t have entered French market. Their study of the case of Netflix has shown that “one of the main drivers for cooperation-based business models is to expand market size”. Their analysis also has shown that the business model which was used by Netflix heavily relies on cooperative approach. Netflix expands to almost everywhere “except China, Crimea, North Korea, and Syria” (Lobano, 2018).

Moreover, nowadays Netflix occupies a leading position in the market and is considered to generate approximately one third of total Internet traffic within the USA. Some Internet sources assume that every fourth Internet user in the USA is a Netflix subscriber. However, this statement might reflect obsolete information or be inaccurate. Moreover, it is likely that the number of Netflix subscribers is now equal to the number of all cable subscribers in the US, as households have multiple subscription providers (PwC, 2019). A study in 2017 shows that approximately 73 percent of households connected to the cable. Total number of Netflix users according to different sources is somewhat near 125 Millions subscribers. “During 2013 alone its stock more than tripled, it won three Emmy awards, and its U.S. subscriber base grew to nearly 29 million” (McCord, 2014). McCord underlines, that at Netflix, “employees used to focus too heavily on subscriber growth”, without much awareness that their “expenses often ran ahead of it”. He says: “we were spending huge amounts buying DVDs, setting up distribution centers, and ordering original programming, all before we’d collected a cent from our new subscribers. Our employees needed to learn that even though revenue was growing, managing expenses really mattered”.

Business model

Netflix operates from a long term debt. In a year when profits are like 10 billions of dollars, expenses are like 12 billions of dollars. The corporation spends more than it earns. In 2018 Netflix had nearly 7000 workers, according to statista.com website. However, considering that the subscriber growth is slowing down and the same of Hulu and Amazon increases. “Hulu, a streaming service jointly owned by 21st Century Fox, Disney and NBC Universal, had become more assertive in licensing and developing shows, vying with Netflix for deals” (Nocuru, 2016). Netflix makes a bet on its original content that will allow it to survive the competition in a situation where sources who provide content to Netflix have their own streaming services, as it is with subscription based streaming Disney+. M. Jenner in 2014 underlines that Netflix made a move to produce and distribute their original serialized drama.

Sudeep (2019) points out that most “streaming platforms provide users with access to vast repositories of content with only a small fraction familiar to them.” It makes search and

recommendation engines essential for use of such systems. According to his paper, user studies at Netflix “have revealed three different mindsets in which members interact with Search, namely, Fetch, Find and Explore, even though the aim is to watch something for entertainment. This is quite different than the intents of navigation, information, or transaction behind the Web Search queries.”

Netflix used recommendation and rating algorithm Cinematch and in October 2006 it set up a challenge stating that the “company will award a Grand Prize to the team with a system that can improve on that accuracy by an additional 10” percent (Bennet, 2007). The contest lasts 3 years and as per the website netflixprize.com there are two companies who achieved the improvement rate over 10 percent. However, Bell Kor Team, who claimed the prize one million dollars. Then Netflix being excited about the first success publishes a second one million prize contest which soon becomes cancelled because of privacy issues. This time Netflix published a lot of information about users including age, location etc which could lead to identification of users as it happened with AOL in 2006, when they published a sanitized datasets where user name was substituted with number and contained all search requests by the user, which allowed reporter enthusiast to track down a user using the information from the published search requests (Langville, 2012). Raustiala (2019) writes: “coupled to powerful computing, the data that firms like Netflix, Spotify, and Apple collect allows those firms to know what consumers want in incredible detail.” Moreover, It appears that the power of Netflix is that it acts as a distribution network for Hollywood (M. Jenner, 2018). However, Netflix has its own production in Hollywood and its headquarters is based not far from there in Silicon Valley.

It would cost an incredible price if media streaming companies like Netflix would have to build their own communication networks and maintain hardware equipment: satellites, broadcasting antennas, fiber links, etc. Fortunately the cost for technological expenses is minimized in the case of Netflix’s entry to markets, which is similar to publishing a new page to the Internet, which doesn’t require to design and build the internet, but just a page. In that scenario communications and service providers already exist and are presented in the market. Netflix’s efforts are reduced to just pushing a certain content to a certain web hosting provider. As in this analogy, Netflix just has to put their brand name to services that will be published by Internet and IPTV service providers in a way so that content that will be streamed to end user will be delivered under the Netflix’s brand and interface. Previously the very same content might come through multiple other sources both legit and of pirate nature.

Some Internet Service Providers [ISP’s] tried to charge Netflix to enter their market, but it did not work well. In general for Netflix it was possible to place their source of content to ISP’s without any charge by the latter. What requires dramatically more resources for Netflix is to procure licenses to legitimately deliver streamed content which they provide. It is considered that Netflix is like The Pirate Bay, but with appropriate licenses. However, it requires a tremendous amount of money to get in agreements with producers and suppliers of the content, establish contracts, and maintain licenses for every single piece of content they are delivering.

Fortunately, Netflix has the money and manages to establish contracts with major providers in many countries. Together with extensive marketing it results in dramatic increase of subscribers. For example a single contract made in France with one of the leading media operators brought some few millions of subscribers to Netflix at once (Egeret, 2018). Netflix benefits from its ability to predict and form future demand based on the analysis of consumers' preferences and choices. That allows them to create originals that will be in demand. "Its ability to analyze vast amounts of data about its customers' viewing preferences helped it decide what content to buy and how much to pay for it." On the other hand Patcher "compared Netflix to a rat racing on a wheel, staying ahead only by going faster and faster and spending more and more". Hatched tells the New York Times reporter that their challenges are execution challenges (Nocera, 2016). Which implies the idea that in the race which it organised, it got to be taken advantage of by the content providers, who previously were providing the content for almost no money and then started to increase the cost of it, as they realized that Netflix could be a threat to them and could pay more if they request more.

Technological aspects

Initially they used to construct and maintain their own data centres (Cockroft, 2011). But it turned out to be not a very effective practice, as it was very consuming in terms of time and money to maintain them and to troubleshoot technical disasters that used to take place in local data centers. Often it resulted in disruption of services. However, within time Netflix migrated to Amazon AWS infrastructure, and it allowed to cut expenses for technical infrastructure and maintenance dramatically. The content which Netflix uploads to Amazon infrastructure is transcoded, fragmented, and replicated. Then it is processed through multiple cloud servers in order to be delivered to subscribers via multiple channels. Content is stored in Amazon's S3 file storage systems. It is processed at Amazon's servers. Cloud instances are functioning at EC2 infrastructure which allows them to start and maintain servers with minimal efforts. The amount of data stored at Amazon by Netflix is tremendous. In 2010 it was approximately a petabyte of data which was stored by Netflix at Amazon S3. Moreover, from the S3 storage data comes to Content Delivery Networks [CDN's] and from them it comes to Internet Service Providers [ISP's]. The last mile distributes content directly to users' devices such as computers, mobile devices and smart TV's. From the users side a request comes to ISP and from them it is directed to a closest location of Amazon storage from where a requested file is retrieved and delivered to the user. Location from where a file is picked from is selected based on geographical area and the load. For example, during the day and the night users could be retrieving movies from different zones whichever will have better latency and bandwidth by the time the users' requests are made.

Most if not all of the processed operations rely on open source software: Mysql database, Apache Tomcat web engine, memcached optimization, etc. Distribution, replication and analysis

tasks are processed with Hadoop, Hive, Brisk, Cassandra (Cockroft, 2011). Cockroft in his talks published at Youtube points out that fast-win strategy is used within the company and that it allows to reduce the complexity of business operations. It becomes possible due to the use of the Amazon cloud infrastructure where a developer directly implements this or that part or fragment of a project. Developers are using the feedback coming directly from the cloud system, which differs with the situation which took place 20 years ago when it would take a year to negotiate at all levels how a project or its particular part or modification will be designed, which would require consequential board meetings, discussions, etc. Today the yearly negotiation loop reduced and transformed to a line of a code deployed to the cloud iteration of which allows to instantly get through all steps of the project design implementation, testing and further update where these stages will repeat in a loop, points out Cockroft. The internal management model of the company consists of actions of self regulated developers who maintain in the cloud their part of work and their coordination with other departments is minimised to interexchange of short notes. As developers are using direct feedback from cloud systems and in most cases not using feedback from humans and neither they need to participate in board meetings it allows to reduce time dramatically for negotiations, testing and further incremental updates of their part of the work implemented with use of microservices. Instead of asking a chain of people for permission to do this or that modification or improvement to their portion of the work, a developer does an action on independently and informs a related person or a department about what is being implemented or will be implemented without asking their permission but just informing them of the happening. If the modification or an update implemented by a developer works or fails the cloud system informs the developer by either failed integrity or by maintained integrity informational messages which. In this framework, during the design phase instead of use of traditional schemes of software development, the assumption is made that a code execution fails and the attempt is made to keep the state of the system on the side of a user in case of failure of the code in a state which would be in case if the code did not fail. It is a new paradigm proposed by Amazon and utilized by Netflix in their operations and developments.

Impact

Needless to say, the impact that Netflix causes to US citizens is tremendous. Bridge et al. in their article published in February 2020 in Journal of the American Academy of Child and Adolescent Psychiatry and titled *Association Between the Release of Netflix's 13 Reasons Why and Suicide Rates in the United States: An Interrupted Time Series Analysis*, underlines that their study revealed that suicide rate among “10-to-17-year-olds increased significantly in the month immediately following the release of 13 Reasons Why”. Moreover, according to Sugg et al. (2019), “the release of 13 Reasons Why Season 2 (13RW2)”, coincided with two celebrity suicides.

In their comparative study, Rios & Scarlata (2018) suggest that “despite Netflix’s best efforts to establish itself as a truly global service (Netflix US, 2017), or perhaps more aptly a multi-national service (Lobato, forthcoming: 70),” “national streaming platforms have been able to capitalise on the global behemoths inability to ever become truly local.” Local companies focus on production of localized content targeted in specific geographical locations and that gives them an advantage against Netflix who is using a more generic approach. According to Scarlata who refers to the work of Lobato, “Some 200,000 Australians were accessing Netflix using VPNs before its official launch”, “so the conglomerate relied on word of mouth to propel it forward in this new market”. Using analysis of Latin America and Australian market, Scarlata determines that despite attempts of local national providers to use the style of Netflix and distance it from it, and use their national production, it seems as an attempt depicting nothing more but usefulness even to the national audience: “with these local platforms seeming to accept that their national productions will not be able to compare favourably with Netflix among national audiences”. She also underlines that “Netflix has also added a large amount of non-English language in-house productions” (Scarlata, 2018). “ Yet, Netflix accelerated many developments. It also managed to pose a challenge to established media conglomerates while positioning streaming not as an alternative to television, but as television ”(Jenner, 2018). In her book, Jenner quotes words of journalist Michael Wolff: “It is not Netflix bringing digital to television, but, quite obviously, Netflix bringing television programming and values and behaviour to heretofore interactive and computing-related text.” It seems that Netflix manages to form and sell a concept of TV on the top of Internet communications, via applying selection and queuing of files in a way they will be delivered as a stream to end user.

Conclusion

Netflix’s approach turned out to be innovative, democratic and very dynamic in its nature. Processes and operations which are characteristic to the principles applied by Netflix are optimised for fast processing. Most of the development routine and the feedback are looped on developers. Most of the content and processes are replicated at multiple distributed locations. Its structure allows the system to remain in a stable state and operable even in case of failures of many parts of the system. Business model used by Netflix is complex. Its strength is in the lifted financial constraint which allows it to use A-list directors, actors and other human and non-human resources. Not surprisingly most of SVOD is Hollywood films. It is evident that the factor of competition plays a crucial role in Netflix’s business model. Moreover, main objectives and the motives that drive Netflix are rather concerned in number of subscriptions, than in revenue. However, further research will be required to understand the business model used by Netflix in a more detailed way.

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