

New Technology in Music and Entertainment

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Critically evaluate how new technology has turned the music industry from a product to a service sector.

This critical analysis delves into the transformative influence of new technologies on the music industry, exploring how **digitalization, streaming platforms, social media, and data analytics** have revolutionized the way music is created, consumed, produced, and distributed. The paper examines the implications of this shift for artists, record labels, and consumers, highlighting both the benefits and challenges associated with the transition to a service-oriented paradigm. Overall, this analysis illustrates how technology has played a pivotal role in reshaping the modern music industry whilst catalysing its transformation into a dynamic and interconnected ecosystem.

In order to analyse the ways in which the intervention of new technologies has transformed the music business from a product based industry to a service industry, it is essential to define the ways in which these models differ. The U.S chamber of commerce states that product based businesses differ vastly from service oriented businesses; specifically regarding start up and running costs, as well necessary differentiations in the implementation of marketing techniques and strategy. In business discourse, there is a general consensus that the differentiating marker between the two lies within product businesses being substantiated by physical, tangible objects, whereas a service business provides value through intangible skills, expertise and time. (Peek, 2019) Furthermore, determining the value of a physical product can be calculated through formula, i.e $\text{value} = \text{benefits} / \text{cost}$. Reviews and ratings can contribute to a consumer's decision to purchase a product, with the added requirement that such businesses meet consumer demand and storing of its inventory. (Peek, 2019)

The operations of a service business differ. Although service industries may garner lower costs regarding inventory and physical storage space, such businesses are driven by consistent and effective marketing in order to develop a strong business to consumer relationship to drive and retain customer engagement and achieve sales. Products are viable for returns, refunds, resales and exchanges. A service business gains value via maintaining client relations, ideally resulting in repeat exchanges with the customer, rendering it much harder for consumers to evaluate the quality of a service than that of a product. (Christy, 2016) Visibility is usually achieved through effective product marketing that addresses a want or need that the item in question fulfills. Effective service marketing typically aims to establish trust between consumer and provider in order to foster an ongoing relationship. (Christy, 2016)

It is possible to analyse the transformation of the modern music business from a product to service industry through this framework. If tangibility is in fact the primary factor in differentiating service and product industries, it is acceptable to argue that the digitization of music has been the defining factor in the industry's evolution into a service model, due to the shift in how music is both sold and consumed, as well as stored, shared and distributed.

Prior to the digitisation of music, industry actors conducted methodologies like market research through surveys and focus groups to gain insight into target demographics and consumer behaviours. Collating market insights, real time sales data and transparent revenue reports proved challenging due to inaccurate accounting and inventory management. Retail placement played an important role in driving physical sales, with record labels allocating extra spend to achieve prominent shelf space and displays to increase product visibility and awareness. Scarcity tactics such as limited edition packaging, signed physical products, bonus tracks and remixes were employed to drive a sense of urgency and product scarcity to encourage quick sales. Power in recorded music, the sector of the industry which generated the most revenue pre digitisation, was largely rooted in the ability to control physical distribution. However, the product centric nature of the recorded music sector also accumulated significant upfront costs generated by production, warehousing and the transportation of goods. Record labels were unable to achieve the same scope of distribution made possible in the digital era. Limited distribution channels rendered labels reliant upon retailers and distribution networks to reach consumers and gaining access to global audiences and niche markets required additional spend and strategy.

The emergence of online file sharing services like Napster in 1999 initiated a widespread culture of illegal music piracy, in turn decimating traditional revenue streams in the recorded music sector and driving down physical sales of music products like CDs and Vinyl. CD sales saw a decline of 23% in 2018, with approximately 100 million less units sold than in 2008. (Frankland, 2020) Despite legal action from record labels and musicians resulting in the dismantling of Napster in 2001, (Sydel, 2009) labels were unable to compete with the legacy and culture of online piracy. (Wikstrom, 2014). The first company to create a successful online service for legal sales and distribution was not a music industry player, but Apple Computer. (Wikstrom, 2014). Apple's offering, *Itunes*, simultaneously resolved the issue of illegal music distribution while actualising the next disruptive innovation to the recorded music sector's customary distribution models. *Itunes* functioned as the first online retailer able to offer catalogues from major music companies, allowing consumers to deconstruct the album format, enabling the purchase of individual preferred tracks. *Itunes* also used an entirely novel pricing model - consumers were no longer required to part with £15 - £20 for physical products to potentially obtain a single desired track. (Wikstrom, 2014) These new price points confronted consumer comfortability regarding music piracy, while offering higher quality downloads. Whilst *Itunes'* format obliged labels to reevaluate their pricing strategy in the shift from physical to digital, it also restored some of revenue for artists and labels lost by illegal online file sharing. *Itunes* marked another shift towards a service centric approach, democratizing access to music for fans, with consumer behaviour at the core of strategy development and decision making.

The next development in music distribution came with the emergence of the streaming platform Spotify, which presented a legal, ad supported and subscription based service that grants users access to a vast catalog of music while generating licensing revenues to copyright holders. This model has largely relinquished the consumer's need for owning physical products *and* digital copies of music, and instigated a mass migration to subscription based services within online entertainment. Such platforms not only provide a service to consumers in hosting and distributing music, but service independent and unsigned artists and labels by offering a convenient and accessible method for publicising and monetizing their music while increasing their reach to global audiences.

Streaming services are now the dominant method of music consumption and distribution. The way in which consumers engage with their product has also undergone major transformation. With physical products such as CD and vinyl, the value of an album could be retained following the initial purchase via repeat listening, returning to the artwork, lyric sheets and linear notes, with the context of the full product also contributing to overall value. (Frankland, 2020) Additionally, post-digitization, music became portable and on demand. The advent of devices like Ipods enabled access to significantly larger file storage than walkmans or early MP3 players. Gradually, consumers established a new expectation for on demand access to almost infinite catalogues, with the role of music and entertainment embedding itself further into the daily life of a consumer. Midia Research posits that particularly in a post-pandemic environment 20 to 24 year olds over-indexed on music taste being a predominant factor in self identification. (Kahlert, 2023) Fan behaviour is a vital dataset.

Music's digitization has enabled music businesses to effectively improve their services by utilizing data gathered from streaming platforms, DSPs and social media, which provide valuable analytics on consumption patterns. Additionally, for artists, data collection and analysis helps identify where their music is being used, easing royalty collection. Advanced technology based on web scanning and data processing can also reduce unauthorized usage of music and copyright infringements. (Ghazi, 2023) By analyzing streaming data, record labels and distributors may identify, predict or strategize around a song's popularity. It is possible to evaluate potential risk and expected returns associated with new artists and genres, as well as to track listener demographics, geographical trends, and listening habits in order to tailor marketing strategies and release campaigns accordingly.

A recent example of this can be seen with 25 year old musician Raye's 2023 release *Escapism*. After a decline in streams following the first week of the tracks release, it's trajectory dramatically reversed 3 weeks later with an increase of 6 million streams, instigated by a sped up tik tok remix that captivated Tik Tok users, spawning a wave of user generated content which in turn drove streams of the original. (Leight, 2023) Responding in real time, Human Re Sources, the label and distribution company behind *Escapism* released an official uptempo rework of the track that garnered 114 million streams on Spotify, (Leight, 2023) in order to appease their target audience. This resulted in a U.K no.1 and substantial boost in Raye's career. Similar streaming trends occurred with Miguel's *Sure Thing*, Mariah Carey's *It's a Wrap* and The Weekend's *Die for You*. User generated sped up remixes have initiated heritage acts to re-chart and developing artists to reach new audiences, with such remixes often out performing

the original release.(Dalugdug, 2023) The popularity of sped up songs can be attributed in part to accommodating a larger portion of the track to be heard within the time constraints of short form video formats platformed by Tik Tok, Instagram and Youtube, mirroring the pace at which users consume content online. (Brubaker, 2023)

This transposition of power from label executives and A&Rs to social media users and fans effectively characterises the era of digitization, and is a marker of an increasingly service based approach from the recorded music sector. Fan response has become an important factor for artists and labels in identifying which tracks to forefront across a campaign, how and when an artist should tour and how to optimise collaborations.

Additionally, remix culture has undergone a monumental shift to an increasingly decentralised perspective, with record labels encouraging modifications and remixes from social media user bases. As of 2023, the #spedupsongs hashtag on Tik Tok had accrued 17.8 billion views, prompting Universal Music Group to release the compilation album *Sped Up Songs: Official Remixes from Viral Creators and Speed Radio*, intended to “highlight the music creator community responsible for driving viral trends across media platforms”. (Biggane 2023) This accompanies UMG’s verified artist page Speed Radio on Spotify, which holds over 10.3 million monthly listeners. (Dalugdug, 2023)

In 2022 Spotify launched a ‘*Sped up Songs*’ playlist that has amassed over a million followers, with Apple Music recently unveiling the *Viral Remixed* compilation. (Leight, 2023) This in turn highlights an increasingly interconnected ecosystem between labels, distributors, fans, DSPs, and social media platforms brought about by the transition to a digital market. In the context of service sectors, fan collaboration is an effective way of building and maintaining direct business to consumer relationships. With this evolution, the distinctions between the 3 traditional music industry sectors; recorded music, licensing and live become blurred with cross sector music companies, artists and fans serving as mutual business partners. (Wikstrom, 2014)

Beyond publishing, recording and live performance, music in secondary markets is another economically relevant factor. Music offers an integral service to numerous sectors like radio, television, on demand video streaming, restaurants, gaming and advertising through its capacity to induce multisensory experience.(Tschmuck, 2017) Secondary music markets have long been a reliable revenue stream in the licensing sector and digitisation has created new potential for value creation through cross sector collaboration. However, digitisation has also presented new challenges caused by a highly saturated marketplace. In what Midia predicts as an attention recession, strategic cross sector collaboration is an increasingly key strategy in attention retention. (2022) In March 2020, the gaming industries global revenue amassed \$10.4 billion dollars, more than global paid streaming did in the entire calendar year of 2019. Gaming attention retention also significantly surpassed that of the dominant streaming platforms. (Page, 2020) This may be partly attributed to outdated subscription models and price points, and pervasive algorithms negating the possibility of a truly unique user experience. Here, it is important to note how data analytics made possible by new technologies empower businesses to enact progressive and forward thinking strategies to alleviate the impact of future technological disruptions and rectify outdated business models.In a climate where primary

music markets are precarious, providing music as a service to secondary markets is essential revenue. Data aggregators providing cross platform insights on a regional, national and global scale include Chart Metric, Next Big Sound and Soundcharts, that aim to provide exceedingly comprehensive and cost effective data tracking to aid the growth of digital revenues - servicing artists, labels, managers, radio and live events, with purported usage growth within advertising, gaming and fashion industries.

Whilst data analytics have revolutionised the operational tactics of the music industry and stimulated an increasingly service centric business model, human knowledge and context are central to utilising these insights efficiently. Raw data can be rife with inconsistencies resulting in inherently flawed insights. Multiple factors can lead to flawed data collection, such as an artist changing their handles, inconsistent artist activity, fake followers and bots. Utilising flawed data can result in ill informed strategy and loss of revenue. (Buli, 2023)

It may be argued that the intervention of new technologies within the music industry has had negative implications on the production of music itself. Statistics show there is a 35% probability that consumers skip songs within the first 30 seconds of streaming, incentivising some artists to “front load” their songs by composing the most attention grabbing moments at the beginning of a track, or shortening the tracks duration to combat Spotify’s algorithmic payment scheme in which a stream will only be monetized after 30 seconds of play. (Frankland, 2020). Artists are further incentivised to participate in these processes by the low remuneration rates per stream. Whilst Spotify’s algorithms have already reshaped how music is valued in monetary terms, advances in A.I technologies and how they interact with the creative process have instigated discourse surrounding the role of human creativity itself, with the potential of reshaping the very profession of musician over the next few decades. (Hodgson, 2021) The intersection of accelerationism, combined with pressures attributed to data driven decision making in the music industry holds the threat of homogenising artist’s creative processes.

Spotify, Apple Music and other services use data for music recommendation and personalized user experience, employing machine learning models like collaborative filtering to generate offerings like Discover Weekly and Spotify Wrapped. It can be argued that due to the sheer mass of music uploaded each day to Spotify, employing A.I technologies is a necessity, however, we must acknowledge the limitations recommender systems employed by dominant streaming services may present to artists, combined with said corporations promise of scalability, potential upscaling of audiences, as well as financial reward for artist labour in a market where streaming revenue is scarce. It is vital to acknowledge their influence on musical cultures and how this may impact the livelihood and visibility of independent creators further down the value chain. (Hodgson, 2021) A 2023 MediA report found that in the US, 20 - 24 year olds were the music industry’s most valuable segment, whilst simultaneously being the most likely demographic to cancel subscriptions due to streaming services failure to provide a more social, less algorithm-driven experience.

Whilst new technologies are not a fix all solution for the revolutionary impact of the digitisation of the music industry, they have undoubtedly alleviated the process of gradual adaptation for many businesses in an increasingly service based sector, following the enormous challenges that

emerged with the era of illegal file sharing. Early adoption, comprehension and innovation around technological developments like streaming and digital distribution proved advantageous for companies like Apple and Spotify. Despite providing music as a service in secondary markets like restaurants, film and advertising, the pre-digital recorded music sector strategised predominantly around the production and sale of physical products. The digital era places consumer behaviour at the helm, with the aggregation of data offering unprecedented insight into how to best to meet consumer demands and succeed in a globalised market transformed by a redistribution of power from a select few major record labels, to an environment where independent labels and unsigned artists can thrive. Big Data makes it possible to predict shifts in behaviour and make informed preparations for inevitable future disruptions.

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