Measuring Content Diversity in a Multi-Platform Context

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Abstract

Media diversity, or the heterogeneity of media content, is considered a central pillar of a democratic society, but it has seldom been studied in a systematic way. Concerns about the relationship between media concentration and the abuse of power through the over-representation of particular views have been a longstanding focus for debate within communication studies. Logically, highly concentrated media ownership patterns correlate with a more limited range of media sources, implying a less pluralistic system. Recent technological developments and digital innovations have added to the complexity of researching plurality. Meanwhile, media organizations have embarked on new forms of corporate expansion, leading to disagreement amongst commentators over the impact of these changes on the ownership patterns of media content providers. For some political economists, this has heralded a discontinuity and a departure from capitalism, but, for many, new media has deepened and extended the commodification of audiences. The existence of multiple owners, in any case, may not be sufficient to ensure plurality; studies of media diversity should also review the content of the outputs themselves. Despite the fact that many television companies and print publishers have transformed themselves into multi-platform suppliers of content, little is known about the impact of these strategies on the diversity of media content. This article is based on initial findings from a study of media content being undertaken as part of a three year Economic and Social Research Council (ESRC)-funded project 'Multi-platform media and the digital challenge'. This project has sampled, coded and analyzed the composition of content bundles from a selection of key media organizations drawn from broadcasting, newspaper, and magazine publishing industries, including the *BBC, STV, MTV, The Financial Times*, *The Telegraph, Elle UK, T3* and *NME*. To this end, the first two of three phases of content analysis have been employed. This work confirms volumes of content have increased across the sample, but also finds evidence for the recycling and re-purposing of content and for the concentration on particular programmes or stories. Finally, the article argues for the systematic examination of media content outputs and for the development of new ways to measure media content diversity across platform and sector.

The diversity, heterogeneity and plurality of media are regarded as fundamental facets of a democratic society (Aalberg and Curran, 2012; Curran, 2011; Baker, 2002; Napoli, 2009; Van Cuilenburg, 1999). The advent of online and mobile platforms for the distribution of content, as well as technological advancements which have democratized access to the means of content production, are seen to have opened up the media to a multiplicity of new voices. These same changes have exponentially increased the volume of content available to consumers.

Despite the promise of 'digital abundance', concerns have been expressed about the diversity levels heralded by a greater volume of content and content sources (for example, Baker, 2002; Curran et al., 2013; McChesney, 2013). It has been argued that, rather than increasing the diversity of sources of media content, the advent of digital has actually increased levels of concentration and the tendency towards oligopoly (McChesney, 2013). In terms of the actual content produced, digital technology has also made the re-cycling of content easier and thereby contributed to 'churnalism' and 'second-hand stories' as well as to the re-purposing and re-versioning of existing content for multiple platforms (Davies, 2009; Doyle, 2010; Fenton, 2010; Freedman and Schlosberg, 2011, Lewis et al, 2008). It has also been suggested that digital technology has advanced audience segmentation and individual customization, making media content less diverse at the point of consumption (Helberger, 2011).

In my view, it is important to examine how the emergence of a multi-platform strategy will affect the production and distribution of media content and the diversity of output. This objective requires the development of methodologies suitable for investigating the diversity of content output across platforms and media sectors. Drawing on a study of media content undertaken as part of a three-year ESRC-funded project 'Multi-platform media and the digital challenge', this article analyses data collected from eight key media organizations from the newspaper, magazine publishing and broadcasting sectors and reflects upon the implications of these results and on the choice of methodological tools. Evidence is provided for the increasing volumes of content across the sample [1], on the re-cycling and re-purposing of content and on the concentration on particular programme brands or stories.

The article is structured as follows. The next section explores the principle of diversity within the digital age and explains why this is considered an important principle in regard to both ownership and performance. Recent policy interest in the area is then discussed. Broad agreement about the pressing need to include online content within a new measurement framework is highlighted. Next, the assumption that the greater volume of content heralded by digital change means a greater diversity of content is challenged. Subsequently, the methodological approach is discussed, with a focus on the paucity of previous studies and on the challenges of researching the diversity of multi-platform media. Finally, the article sets out the key findings taken from the first two phases of the research relating to the volume and diversity of content outputs and reflects on the prospect of further research in this field.

Media content diversity in the digital age

Dissecting diversity

Media diversity is closely linked to freedom of expression as well as with concepts of access and equality and is regarded as essential for progressive societal change. As McQuail and Van Cuilenburg argue, "the more the alternatives, the better the prospects for individual and collective welfare" (1983: 146). From this viewpoint, the freedom of media, a multiplicity of opinions and the good of society

are inextricably mixed. Concerns about the relationship between media concentrations and the abuse of power or the over-representation of particular views have been a longstanding focus for debate within communication studies. There is an assumption that media concentration may result in an undemocratic influence by potentially leading to a more limited range of media sources. In political economy research around the issue of ownership, debate has focused on the political and cultural implications of highly concentrated control of the media. According to Downing (2011), this work has tended to focus on several key areas including whether there is sufficient evidence of concentrated ownership, whether such ownership leads to a 'strangulation' of democracy and whether it results in a problematic reduction in the variety of media product options available to consumers. As McQuail explains, diversity generally pre-supposes that "the more, and more different, channels of public communication there are, carrying the maximum variety of (changing) content to the greater variety of audiences, the better" (2005: 197).

A further question has been raised as to whether new and more globalized forms of communication and information transmission open up more prospects for a multiplicity of voices to be represented in the media sphere. According to Mosco (2008), for some political economists (e.g. Lazzarato, 1997) this has heralded a discontinuity and departure from capitalism, but for others (Murdock, 2011; Schiller, 1999) new media has, in fact, deepened and extended the tendency for audiences to be commodified. Whilst classical economic theory would suggest that diversity is likely to flourish with greater convergence (as the increasing number of media outlets support a free 'marketplace of ideas'), many political economists have noted the potential for even greater concentration (Downing, 2011). As Murdock argues this "has not only accelerated the formation of media conglomerates of unprecedented scale and scope…it has fostered concentration rather than dispersal on the internet" (2011: 31). As a result of this, it has been argued that social inequalities and divides have been exacerbated in the era of new media (Schiller, 1999).

It has also been argued that one must look beyond the structural factors of ownership to examine media pluralism. Doyle (2013: 12) explains how the conception of diversity enshrined within the Committee of Experts on Media Concentrations and Pluralism embraces both ownership *and* outputs. Similarly, McQuail (2005) suggests addressing diversity in terms of the output performance of particular media organizations (as well as in terms of the number and variety of producers). Van Cuilenburg (1999) proposes a definition of diversity which moves beyond ownership to content outputs so as not to conflate the number of media outlets with the performance. Doyle unpacks this further, explaining that "although the development of large media groups, if left unregulated, might possibly contribute to a wider range of products,…economic motivations may sometimes exert a standardizing influence over the output of large media firms" (2013: 27). Before reviewing how past studies have attempted to measure media diversity, the following two sections will explore how plurality has returned to the policy agenda in the UK, and address the assumption that content abundance leads to content diversity.

Plurality and diversity on the policy agenda

Concerns about press standards and the potentially harmful effects of media ownership concentrations have featured regularly in the history of UK media policy (Curran and Seaton, 2009). As already outlined, concentration of ownership, it is feared, can lead to over-representation of certain political opinions and imbalances in the forms of cultural output (Doyle, 2013). Such concerns have given rise to a statutory regime which is intended to promote plurality but has not prevented media empire-building in the UK.

Recently, media plurality has returned to the policy agenda in the UK. In the wake of high profile scandals including phone hacking at the *News of the World*, an independent inquiry led by Chief Justice Lord Leveson was established in 2011. Leveson reported in 2012 and since then there has been a number of consultations and reports including Ofcom's *Measuring Media Plurality* report (June, 2012), the European Commission Report of the High Level Group on Media Freedom and Pluralism (January 2013), The House of Lords Report on Media Plurality (February 2014), and the UK Government's Response on Media Plurality (DCMS, August 2014). The latter articulates the principle that the "Government should seek to promote the availability and consumption of a range of media voices" (DCMS, August 2014: 8).

Despite the unanimous condemnation by politicians of the gross misuse of media power during the scandal and the sense that the Leveson Inquiry was a historic opportunity to address this matter, it can be argued that little has been achieved in subsequent intervening years (Barnett and Townend, 2014). This recurring disconnect between media policy rhetoric and action can, in part, be attributed to the fear among the political classes that they will incur the wrath of powerful media interests (Barnett and Townend, 2014). Accused of being a "vapid" document (Barnett, 2014), the Government Response on Media Plurality failed to tackle "the democratic problems arising from media power concentrated in too few hands" (Barnett and Townend, 2014: 168).

One important point established by the Government's Response was an overwhelming agreement that online media should be included in any new measurement framework. Within the document, respondents noted "the inconsistency that means current regulations exclude a platform that has become an increasingly important channel through which people regularly find information about the world around them, particularly news" (DCMS, August 2014: 11). However, there has also been broad acknowledgement concerning the challenges of measuring diversity across new platforms. As the Ofcom Report states, there is a "need to ensure that the regulatory approach to plurality remains fit for purpose in the face of a media market that is increasingly converged, with distinctions between platforms blurring and online growing in importance" (2012: 6).

The promise of digital abundance

The exponential increase in the content volume available to consumers via the Internet has been accompanied by a discourse which emphasizes the democratic opportunities of such change. As Curran et al. (2013) highlight, while the digital utopianism of the mid 1990s might have subsided, discourses which emphasize the democratizing power of the internet, in terms of its international reach and public empowerment, remain dominant. It is contended that digital change has led to 'content abundance'. As McChesney (2013) argues, the digital revolution is characterized by the sheer amount of information which is generated and shared. He exemplifies this claim with reference to YouTube which generates more content in less than a week than all the film and television Hollywood has produced in its entire lifespan (McChesney, 2013: 1). According to 'celebrants' of the Internet, the range of sources from which this content originates has also become more diverse as new players, enabled by reduced barriers to entry, compete with more traditional media organizations. There appears to be a broader choice of mechanisms for receiving content as well as overall increases in content volumes and wider accessibility (Chan-Olmsted and Ha, 2003; Van der Wurff, 2008). There is certainly no doubt that the advent of digital platforms has significantly reduced the costs of distributing communications and that the Internet has reduced the difficulty and cost of assembling, storing, searching, and copying data (Baker, 2002).

The predictions of 'celebrants' have focused on the prospect that the Internet will recreate a sense of community, subvert and rejuvenate the established press, democratize television and empower people (Curran, 2011). However, prophecies have previously overstated the positive impacts of new media; technological innovations like cable television and interactive digital television were heralded as bringing democratic possibilities that went well beyond their actual impact. These "techno-fantasies" (Curran, 2011: 99) have tended to view new media innovations in a vacuum without consideration of the economic, social and cultural factors which shape their adoption and usage. In fact, as Curran argues "what technology 'could do' was blocked by the power of economic oligopoly, underpinned by copyright and an international system of law" (2011: 109). Further to this, McChesney (2013) has shown that, rather than the internet age heralding a wider variety of players, it was characterized by increasing concentration within given markets. This has been exacerbated by the increasing prevalence of conglomerates operating across multiple sectors.

Beyond the need to contextualize new technology within wider social and economic processes, Baker noted more than a decade ago that the new media environment undermined the old media incumbents. Claims that new media were "more" or "better" were therefore contestable (2002: 288). At present, many traditional media organizations are struggling to survive financially and there has been a move towards rationalization and consolidation amongst existing players (European Commission, 2013). As Angela Philips contends in her study of UK journalistic practices, "one is forced to conclude that the overall effect of the internet on journalism is to provide a diminishing range of the same old sources albeit in newer bottles" (2010: 101).

Changes in media industry practices may also be negatively influencing the nature of the content produced. A "pincer movement" created by declining investment in staff resources for news content production and the demand for speed imposed on reporters in the Internet age, forces journalists to "recycle second-hand stories" (Davies, 2009: 71). The ability to share stories around the globe combined with the pressure to produce 'more' with 'less' has resulted in increasing 'churnalism', cannibalization and reliance on newswires (Davies, 2009; Doyle, 2014; Fenton, 2010; Lewis et al, 2008). In a landmark Cardiff University study of content outputs by UK news outlets, Lewis et al (2008) found that 60% of press stories within their sample relied wholly or mainly on pre-packaged information from the PR industry or other media, notably agency services. There has been increasing content homogenization with a growth in second-hand stories and in the straight publication of news wire and press releases (Freedman and Schlosberg, 2011). Studies have found that the content of mainstream news is largely the same across different outlets, with identical quotes, images and similar text prominent features (Fenton, 2010). Within broadcasting, convergence is seen to have brought greater opportunities for the re-cycling and re-versioning of content for multiple platforms (Doyle, 2010).

Several scholars (including Baker, 2002; Helberger, 2011; Napoli 2011a) argue that the prospect for segmentation and tailoring offered by new technology is undermining diversity of content at the point of consumption. Content can be disaggregated into more discrete consumable units such as TV clips online or through the downloading of individual songs (Napoli, 2011b). Although there has been a dramatic increase in the range of available sources and content via online modes, audience attention can become highly concentrated around a selective range of sources. As Hindman asserts, "the internet does not change the economic logic of concentration. If anything, the Internet's ultralow distribution costs would seem to guarantee even larger economies of scale" (2009: 89). In the case of news content consumed online, it is suggested that a paradox is emerging; on the one hand, the capacity to represent more niche and alternative voices, but on the other, allowing those consuming

it to tailor their preferences which may result in a less diverse "diet of news" (Freedman and Schlosberg, 2011: 19). This creates the potential for "information isolation" (European Commission, 2013: 31).

Research into consumer patterns of the content accessed on new devices confirms that, despite the potential to access almost limitless numbers of news sources, people are actually accessing *fewer* sources of news. For example, 55% of UK Smartphone users report that they use just one news source each week (Reuters Institute for the Study of Journalism, 2014). Similarly, an analysis of the online readership of primary European newspapers in early 2010 reveals that the average news website visitor reads much less than one webpage a day (European Union, 2011: 68). The rise in mobile device usage, the success of *Buzzfeed* and increasing competition for audience attention have also driven the popularity of 'listicles' on news and magazine websites and social media. Readers are thus allowed to 'snack' on news, leading some commentators to raise concerns around the future of quality journalism (Beynon, 2014; Lawlor, 2013). Search engine algorithms can also limit the range of content available to consumers and increase the role of less transparent gatekeepers and digital intermediaries (European Commission, 2013). Rather than empowering citizens, this may result in a democratic deficit and, as Baker contends, "individualization and segmentation, made possible by cheap delivery and reduced costs of finding desired content, may undermine any general public sphere and the discourses that lead to finding common ground" (2002: 290). Research has also demonstrated that, despite the accession of new players, there is considerable continuity in the trusted sources of content. For example, instead of citizen journalism or 'pureplay' digital news sites, the majority of online news is accessed from sites owned by legacy media organizations (Curran et al., 2013).

In sum, the media landscape has become increasingly complex in the wake of technological change with disaggregation of content, new mechanisms for content delivery, de-stabilized business models and a considerable fragmentation of media audiences. Beyond this, there has been convergence of media forms which do not adhere to the traditional sector boundaries or institutional remits. The combination of these factors means that it is increasingly difficult to determine the best course of policy intervention and regulation to ensure media plurality, just as these factors have intensified the need for such intervention. As emphasized in this article, any effort to intervene must be based on a robust measurement system. The de-stabilizing changes associated with the digital media era have made it increasingly difficult to determine the diversity of media content. This study takes media content diversity as its chosen conceptual frame and attempts to measure this across sector and platform. The following section discusses the approaches of a number of previous empirical studies of content diversity and justifies the one adopted for this analysis.

Measuring the volume and diversity of multi-platform media

Van Cuilenburg describes media diversity as the "heterogeneity of media content in terms of one or more specified characteristics" (2000: 52). In order to focus on the attributes of diversity relevant to this study, it is useful to break down the concept into discrete categories. As already highlighted, within communications studies and policy, diversity can be looked at in terms of both source diversity and content diversity. Source diversity within the media landscape refers to the existence of a numerous and diverse range of providers (Napoli, 2009). Taking this focus, media ownership and concentration become the operational indicators of diversity. As already mentioned, this approach to analyzing media diversity has been critiqued on the basis that it is difficult to prove causality between source diversity and diversity of content. Content diversity focuses instead on outputs and can be

further collapsed into several key features: demographic; idea/viewpoint; and programme-type (Napoli, 1999). Demographic diversity explores the representation and portrayal of minority groups within content. Idea diversity is more complex and arguably more elusive as it aims to review the diversity of social, political and cultural perspectives being presented in media content (Napoli, 2009). Programme-type focuses on the range of different shows available. There is a further possible conception of diversity which focuses on the range of outputs consumed. This is the concept of 'exposure diversity' (Napoli, 2009; Helberger, 2011) based on the extent to which audiences consume a wide range of content. It is, however, beyond the scope of the present study to explore exposure diversity: it is content diversity that will be addressed.

Measuring the diversity of media content across sector and platform is not straightforward. Past empirical studies were found to provide few pointers because most have focused on a single sector (e.g. Compaine and Smith, 2001; Carpenter, 2010). Those which have covered several sectors restricted themselves to a specific platform (e.g. Lin and Jeffries, 2001). By contrast, the aim of the present study is to compare across platforms as well as sectors.

This study depicts the diversity of outputs using 'content bundles' (a newspaper/ magazine title or broadcasting channel) as the unit of analysis. This technique was selected to gauge how multi-platform strategies are impacting upon content selection and how media diversity is being affected across selected television channels, newspapers and magazines. Selected content bundles from eight case study organizations were explored in Phase One and Two [2] of the study. The content bundles were comprised of two newspaper titles, *The Financial Times* (Pearson) and *The Telegraph* (Telegraph Media Group); three broadcast channels, *BBC One* (BBC), *MTV* (Viacom International Media Networks Europe) and *STV* (Scottish Television Group); and three magazine titles, *Elle UK* (Hearst Magazines UK)*, T3* (Future Publishing) and *NME* (IPC Media). Within these 'content bundles', it was 'programme/ story-type' diversity (focusing on the range of different shows or stories available) that best reflected the data needs for the study. For the purposes of data manageability, there was a focus on selected categories or genres of content such as 'celebrity' from *Elle UK* and 'UK companies' from *The Financial Times.*

The selection of these case study organizations was guided by a need to generate data across the main sectoral categories of newspapers, magazines and television which constitute the focus of the wider research project. There was an emphasis on organizations of a significant size for the purpose of researching the response of legacy media organizations to digital change. The sample thus includes differing kinds of corporate entities with the anticipation that this would provide a good basis for understanding convergence and divergence in the adoption of multi-platform strategies across sectors. The choice of organizations was also influenced by the ability to access appropriate personnel in order to generate empirical data from interviews and observation. This would meet the other key research questions for the wider project.

The study set itself the goal of testing two hypotheses; firstly, that multi-platform innovations have increased the volume of content available and, secondly, that they are influencing the diversity of content available. As the study was to be carried at three points in time (spring 2013, spring 2014 and spring 2015), the results of the first (2013) phase provide the benchmark for the results of the later phases. In order to test the hypotheses, two components of volume and diversity required measurement. Volume was calculated by counting the time constituted by different programmes or by the number and length of print articles available within the time period. A weighted volume [3] for each programme or article was also calculated by attributing a story/programme value to each content item. Diversity was measured in terms of both repetition and concentration. As regards

repetition**,** having recorded the existence of an article or programme episode, there was a further recording of stories and programme brands. The eight stories or programme brands with the highest volume were identified within each platform. Comparing these gave an indication of repetition and re-cycling on each platform. Concentration was calculated by reviewing the composition of each platform to measure the proportion of the content outputs that could be attributed to particular items. With regard to measuring concentration [4], there are a broad range of typologies and corresponding indices which have been utilized in past studies exploring concentration in relation to programme diversity. Common and simple methods include applying a CR4, CR8 or Herfindahl-Hirschman Index (HHI) (Craufurd-Smith and Tambini, 2012). Whilst there are some problems in using these categorizations, Napoli maintains that "they represent the only reasonably simple and objective method of tapping into content differences within media products" (2009: 243). The results of these measures on their own are not as important as their use as a comparator for differences between platforms and change over time. The following section presents the findings of the content analysis as they relate to volume and to diversity, and reflects upon some possible explanations for the patterns found.

Volume

The first hypothesis the research wanted to explore is that content volumes are increasing with the advent of multiple platforms for distribution. Five of the eight case studies combining traditional and new platforms saw content outputs (number of programmes or stories) increase in volume over the two phases of research (Table 1). The content bundles of all the case study organizations saw the weighted volumes of their content outputs increase within the second phase of research, which took place a year later, aside from T3 magazine which saw a slight reduction (of around 1%).

Table 1. Volume of content

Product	Number of articles/ programme episode		Weighted volume of outputs	
	2013	2014	2013	2014
The Financial Times	315	410	729	1201
The Telegraph	315	431	863	1188
Elle UK Magazine	115	135	154	229
T3 Magazine	132	124	262	259
NME Magazine	179	199	416	398
BBC One	119	129	353	363
MTV	169	157	498	513
STV	90	85	229	254

The majority of case studies also saw an increase in the proportion of content volumes directed towards the newer platforms (websites, on-demand, tablet editions) (see Table 2, Appendix One for a detailed breakdown). The most pronounced example of this was the newspaper case studies which had a greater proportion of content outputs on the website compared to the print edition. This signaled a greater emphasis on digital content at both newspapers. For example, *The Financial Times* print

product accounted for 21% of the total content outputs as opposed to the website which constituted 40% of the total content outputs (2014). The remaining proportion was accounted for by the tablet edition. Due to dramatic declines in print advertising revenues and subscriber numbers, newspapers have tried to embrace new platforms. At *The Financial Times* there has been a push towards digital since 2006 and an explicit desire to increase digital subscribers and expand digital distribution to increase reach (Schlesinger and Doyle, 2014). It has been evidenced in the wider project that the proportion of FT Group revenue derived from digital services increased by around 20%, between 2008 and 2012, from approximately 31% to 50% (Doyle, 2014).

With regard to the magazine case studies [5], the iPad editions were responsible for an equal or higher output of articles than the print editions. The *Elle UK* iPad edition made up 41% of total weighted output compared to 34% constituted by print (2014). Magazine publishers have looked towards the tablet as a new mechanism for distributing content to help assuage print losses. For example, there has been an explicit push towards multiplatform by *Elle UK* via their *Elle 360* initiative (Champion, 2015).

In terms of the television case studies, broadcast transmission remained the dominant source of the content volumes, but there was growth in the proportion of content on new platforms (particularly on-demand mobile or web platforms). For example, the proportion of content outputs on the BBC iPlayer's content rose by 2% in phase two, the STV player by 3% and MTV OD by 6%. In recent years there has been a considerable increase in the take up of Video-On-Demand (VOD) devices, along with an increase in the variety of VOD services and apps available in the UK. Thus, VOD is readily available, both online and via the TV screen (Ofcom, August 2014). In 2013, 50% of UK adults claimed to have used a VOD service within the previous 12 months and take-up had increased 23% since 2010.

Diversity

The second hypothesis explored in the research was that multi-platform innovations are influencing the diversity of content available. Diversity was measured in terms of repetition and concentration and these will be discussed in turn to give an indication of repetition/re-cycling on each platform as well as the level of concentration on particular items across platforms. Interestingly, the case study organizations which had the highest levels of repetition were not from the same sector. The highest levels of repetition were found at *MTV* (an average of 2.6 in phase two), followed by *The Financial Times,* (an average of 2.3 in phase two) and *T3* (an average of 2 in 2014). It was notable that the levels of repetition had all increased across these case studies since the first phase. This was mirrored by extremely high levels of concentration within these case studies. For example, 58% of the content broadcast on the linear transmission of *MTV* in 2014 was accounted for by the top four programmes. This rose to 76% when looking at the top eight programmes. At *The Financial Times* in 2014, 56.5% of the print content was constituted by the top four stories and 69% by the top eight. At *T3* magazine, 53% of the print content was constituted by the top four stories and 72% by the top eight in 2014. There are a number of possible factors specific to these cases which help explain these patterns. As well as the specialist focus of *The Financial Times,* the online and tablet platforms have been successfully monetized meaning that there is less incentive to differentiate the content across platforms and avoid re-purposing the print content. The paper does not give away digital content cheaply so there is less inducement to reserve content for platforms that are more expensive for consumers. With regard to *MTV*, the commercial imperatives, lack of Public Service Broadcasting (PSB) obligations and youthful target audience seem likely to have both enabled and encouraged a

high concentration on particular programme brands. As for *T3*, the more niche focus of this title might explain a greater level of repetition and concentration with regard to the remit of gadgets as compared to the broader themes under the ambit of a music or fashion magazine.

With regard to the other case studies, *The Telegraph* had much lower levels of repetition than *The Financial Times* (1.2 on average in 2013 and 2014). In terms of the broadcast case studies of *BBC One* and *STV,* the index of repetition was very similar (1.2 in the case of *BBC One* and 1.3 at *STV*) and there was little change year-on year. At *BBC One* around 25% of the total content was constituted by the top four programme brands on the linear transmission and 23% at *STV*. The similarity between these case studies may reflect the PSB obligations they are required to meet. There are obligations to provide minimum amounts of programming from various genres, minimum amounts of programming commissioned by the channel, and to provide some programmes of European origin. BBC and STV also have maximum limits on the number of repeats. With regard to the magazine case studies, both *Elle UK* and *NME* had low levels of repetition (between 1.1 and 1.2 during 2013 and 2014).

There was quite a wide divergence in approach regarding the sharing of stories or programme brands across platforms. The key factor here was whether all platforms were successfully monetized to the same extent (for example, in regard to paywall charges, cover prices or subscription costs). Other factors such as regulation, work practices, and technological tools also appeared to play a role. Within the magazine sector, where the website presence was distinct and not monetized from either the print or tablet magazine, there was a clear incentive not to monetize content across platforms. At *Elle UK,* the high level of separation between the monetized products and ancillary platforms can be seen in Figure 1. This shows the top eight stories across platforms during the sample period related to the selected theme of 'celebrity'. The websites served an ancillary purpose for the broadcasters with the main mode of content delivery being via the traditional broadcast transmission or on-demand platforms, while the online site was used to provide supplementary programme information and trailing key programme brands. The newspapers, in contrast, were much more likely to share stories across all platforms and all their platforms were monetized to a certain extent. *The Financial Times* (see Figure 2) is the best example of this with a clear crossover of the top eight stories related to 'UK companies' across all platforms during the five day research period. This 'efficient' distribution of *FT* content across platforms would hint at the use of sophisticated content management software (CMS) and provides evidence of a converged approach to the production of print and digital news content which was confirmed by the empirical data collected via interviews at the title (Doyle, 2014).

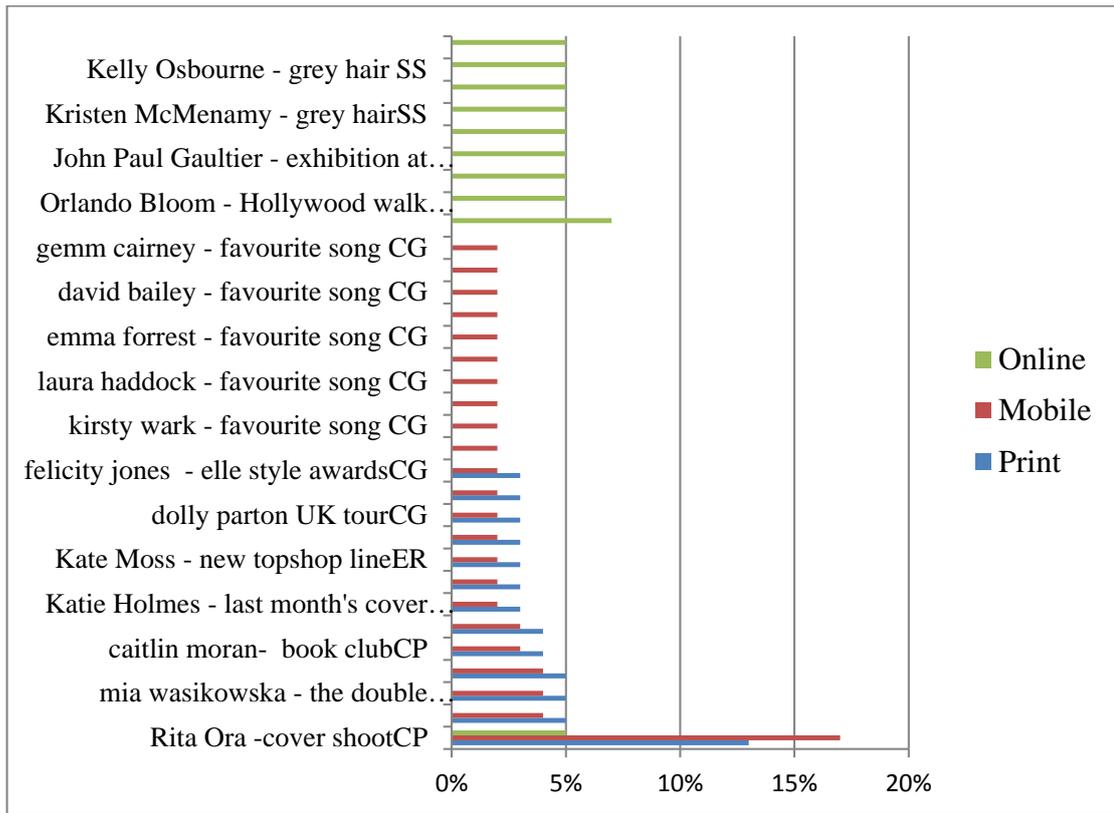**Figure 1**. Top 8 stories across platforms *Elle UK* May edition (3-10 April 2014)
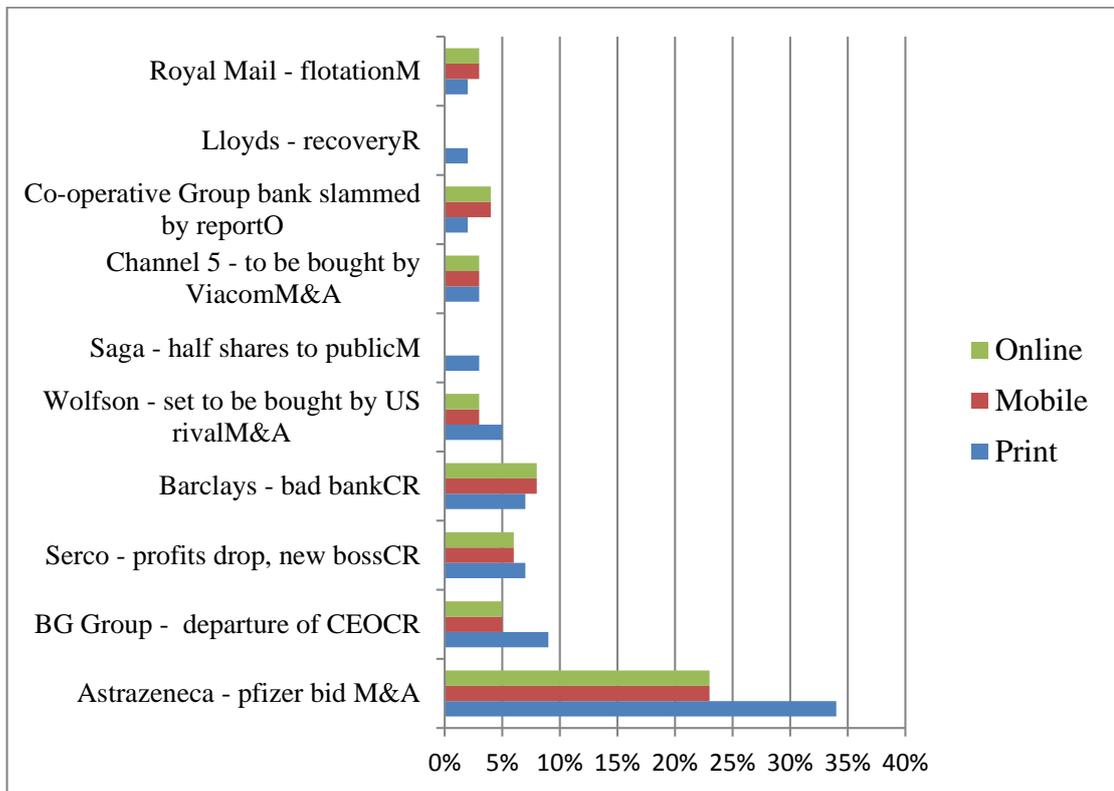

Figure 2. Top 8 stories across platforms *The Financial Times* 22-26 April 2014

Conclusions

This study set out to examine media diversity in the context of digital change, the advent of new media and the emergence of multi-platform strategies for the distribution of content. As identified early in the article, plurality is commonly regarded as a policy goal consistent with a healthy democratic system. Indicators of plurality vary with some theorists focusing on media ownership patterns with the assertion that the greater the variety of sources of content, the greater the diversity of the content produced. It has been argued that this may not be a sufficient indicator of diversity and that the content outputs themselves should be reviewed. Within a highly fragmented and transforming media system, the measurement of diversity becomes especially challenging and multiple consultations and reports have called for more robust measurement systems which take online content into account. This research took as its focus eight case study media organizations from three sectors and specifically reviewed the hypotheses that volumes and diversity of media content outputs are being affected by multi-platform innovations.

Exploring the volume and diversity of content across platforms, the eight case studies identified a number of factors which may explain convergence and divergence in the patterning of diversity of content across platform and sector. The majority of case studies had increasing content volumes over the sample periods and the research indicates that this additional volume was, in most cases, being directed towards new platforms. This is in line with the claim that the emergence of multiple platforms for content distribution is increasing the volume of content being produced by media organizations (Doyle, 2010).

The evidence concerning diversity, in terms of the repetition of content and concentration of particular items, was patchier. A handful of the case studies were found to have had very high levels of concentration and repetition and these tended to be those most engaged with a multi-platform strategy (but not constrained by regulation). During the sample research period, there was a mixed picture regarding recycling across platforms. On the one hand, the newspaper case studies revealed the trend to monetize all platforms, including the website which, at least for *The Financial Times*, had become the dominant platform for content delivery. By contrast, many of the other case studies appeared to have more difficulty monetizing their newer platforms and this certainly dis-incentivized the recycling of content across all platforms.

One caveat in terms of the level of recycling of content across the research sample concerns the restrictive time period of a single week for tracking the website content. Another is the omission of social media platforms from the investigation. The subsequent interviews at *Elle UK* and *Total Film* found that senior staff from both titles outlined a similar approach to any reuse of content. Instead of content necessarily being immediately repeated on different platforms, it was usual for 'overs' to be assembled and held for use at a later date (most commonly for use on websites and social media). This would suggest that research over a longer time frame might well identify greater recycling and re-use.

Although the evidence is mixed, the research does present some interesting points for the political economy of the media. Digitization and multi-platform strategies appear to be affecting different sectors and organizations at differing speeds and intensities. At the very least, the findings of this study would contradict hyperbolic claims around the emergence of a multiplicity of new voices with the arrival of multiple platforms. The research identifies the potential for greater concentration, and as a corollary less diversity, in the content outputs even if it was not uniformly found across the sample. The study identified the capacity to monetize new platforms as a key determinant of the

diversity of content available. Social and technological change are making it more difficult for legacy media organizations to exploit the content that they are producing due to increasing global competition from free online distributors of content. This combined with reduced revenue streams, mean that legacy media organizations face a struggle for survival. Media organizations, enabled by digital technology, have a greater ability to recycle and concentrate media content, which may be creating a perfect storm for diversity of media content. The study, therefore, confirms the need for a shift (as identified by Valcke, 2009) towards a broader perspective of media diversity and plurality (beyond a sole focus on media ownership and concentration). This is important for the future protection of plurality.

This article is not an exhaustive review of possible approaches or a definitive measure of multi-platform content diversity. Nevertheless, it is contended that the approach outlined here provides a useful baseline for tracing changes in the volume and diversity of content outputs. In sum, this article argues that academic research should seek to locate suitable measures which will encapsulate content diversity. Identifying suitable parameters which can consistently trace diversity across platforms and sectors is challenging. Yet, it has become increasingly important to do so given the emergence of a highly complex media landscape that combines processes of convergence and consolidation with the fragmentation of organizations, activities and audiences.

Author Bio

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Endnotes

[1]   Data was collected from eight case study media organizations drawn from newspaper and magazine publishing and broadcasting.

[2]   Phase One of the study was conducted in spring 2013. Three further case studies Total Film (Future Publishing), BBC3 (BBC) and ITV (ITV) were added in Phase Two (conducted in spring 2014) for reasons relating to the wider project, namely relating to issues around access for the collection of interview data.

[3]   The weighted volume was a score which attributed extra value to each article or story based on the presence of additional features such as video or pictures.

[4]   Derived from its use in economics, a concentration ratio is a measure of the total output produced in an industry by a given number of firms in the industry and is usually used to show the extent of market control of the largest firms in the industry and to illustrate the degree to which an industry is oligopolistic.

[5]   The exception to this was NME which over the two phases had considerably higher volumes of outputs on the website (between 39%-48%). Although NME does not have a paid-for website, the publisher IPC has discussed how the title has extended its reach (and associated revenue generating powers) via the use of

its website and social media. It is reported that traffic on the NME mobile website during the most recent ABC period increased by 85% year-on-year, with nearly 40% of the total online audience now consuming the brand via mobile (Pakinkis, 14 August 2014).

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Appendix One

Content volumes

Table 2. Volume of content across platform

Platform	Product	Number of articles/ programme episodes (proportion of total %)		Weighted volume of outputs (proportion of total %)	
		2013	2014	2013	2014
Print	The Financial Times	96 (30.5%)	84 (20.5%)	215 (29.5%)	209 (17.4%)
Mobile	The Financial Times iPad edition	104 (33%)	163 (39.8%)	249 (34.2%)	496 (41.3%)
Online	Ft.com	115 (36.5%)	163 (39.8%)	265 (36.4%)	496 (41.3%)
Total		315 (100%)	410 (100%)	729 (100%)	1201 (100%)
Print	The Telegraph	73 (23.2%)	116 (26.9%)	174 (20.2%)	261 (30.0%)
Mobile	The Telegraph iPad edition	77 (24.4%)	119 (27.6%)	183 (21.2%)	271(22.8%)
Online	Telegraph.com	165 (52.4%)	196 (45.5%)	506 (58.6%)	656 (55.2%)
Total		315 (100%)	431 (100%)	863 (100%)	1188 (100%)
Print	Elle UK Magazine	26 (22.6%)	53 (39.3%)	47 (30.5%)	77 (33.6%)
Mobile	Elle UK iPad magazine edition	26 (22.6%)	53 (39.3%)	47 (30.5%)	93 (40.6%)
Online	ElleUk.com	63 (54.8%)	29 (21.5%)	103 (66.9%)	59 (25.8%)
Total		115 (100%)	135 (100%)	154 (100%)	229 (100%)
Print	T3 Magazine	54 (40.9%)	45 (36.3%)	99 (37.8%)	75 (29.0%)
Mobile	T3 iPad magazine edition	55 (41.7%)	45 (36.3%)	113 (43.1%)	88 (34.0%)
Online	T3.com	23 (17.4%)	34 (27.4%)	50 (19.1%)	96 (37.1%)
Total		132 (100%)	124 (100%)	262 (100%)	259 (100%)
Print	NME Magazine	47 (26.3%)	61 (30.7%)	97 (23.3%)	111 (27.9%)
Mobile	NME iPad magazine edition	47 (26.3%)	61 (30.7%)	97 (23.3%)	111 (27.9%)
Online	nme.com	85 (47.55)	77 (38.7%)	222 (53.3%)	176 (44.2%)
Total		179 (100%)	199 (100%)	416 (100%)	398 (100%)
Broadcast	BBC One/ BBC One HD	52 (43.7%)	51 (39.5%)	153 (43.4%)	141(38.8%)
Mobile	iPlayer / iPad iPlayer	33 (27.7%)	40 (31%)	114 (32.3%)	113 (31.1%)
Online	BBC One Online	34 (28.6%)	38 (29.5%)	86 (24.4%)	109 (30.0%)
Total		119 (100%)	129 (100%)	353 (100%)	363 (100%)
Broadcast	MTV transmission	65 (38.4%)	55 (35.5%)	178 (35.7%)	173 (33.7%)
Broadcast	MTV +1	65 (38.4%)	55 (31.5%)	178 (35.7%)	175 (33.7%)
Online	MTV online	18 (10.7%)	18 (11.5%)	66 (13.3%)	64 (12.5%)
Online	MTV OD	21 (12.4%)	29 (18.5%)	76 (15.35)	101(19.7%)
Total		169 (100%)	157(100%)	498 (100%)	513 (100%)
Broadcast	STV transmission/ STV+1 / STV HD	53 (58.9%)	59 (69.4%)	150 (65.5%)	168 (66.1%)
Mobile	STVplayer/ iPad STV player	17 (18.9%)	19 (22.4%)	58 (25.3%)	68 (26.8%)
Online	STV online	20 (22.2%)	7 (8.2%)	21 (9.2%)	18 (7.1%)
Total		90 (100%)	85 (100%)	229 (100%)	254 (100%)

Table 3. Repetition and concentration of content

Platform	Product	Index of repetition (Index of repetition = $\frac{Number\ of\ programmes}{Number\ of\ programme\ brands}$)		CR4 (CR4 – sum of top four content items divided by total volume of content outputs x100%)		CR8 (CR8 - sum of top eight content items divided by total volume of content outputs x100%)	
		2013	2014	2013	2014	2013	2014
Print	The Financial Times	1.4	2.3	17.7	56.5	29.7	69.4
Mobile	The Financial Times iPad edition	1.3	2.3	15.3	40.7	24.5	53.2
Online	Ft.com	1.3	2.3	15.8	40.7	25.7	53.2
Total		1.3	2.3				
Print	The Telegraph	1.1	1.3	16.7	15.3	26.4	23.0
Mobile	The Telegraph iPad edition	1.2	1.3	19.7	17.7	29.5	25.1
Online	Telegraph.com	1.2	1.2	11.3	22.0	18.0	22.9
Total		1.2	1.3				
Print	Elle UK Magazine	1	1.1	40.4	28.6	61.7	41.6
Mobile	Elle UK iPad magazine edition	1	1.1	40.4	30.1	61.7	40.9
Online	ElleUk.com	1.2	1	17.5	22.0	30.1	42.4
Total		1.2	1.2				
Print	T3 Magazine	1.6	2	38.4	53.3	56.6	72
Mobile	T3 iPad magazine edition	1.6	2	38.9	55.7	56.6	75
Online	T3.com	1.4	1.8	54	34.4	70	70.8
Total		1.6	2				
Print	NME Magazine	1.2	1.1	20.6	16.2	36.1	30.6
Mobile	NME iPad magazine edition	1.2	1.1	20.6	16.2	36.1	30.6
Online	nme.com	1.2	1.1	11.7	19.3	20.7	28.4
Total		1.2	1.1				
Broadcast	BBC One/ BBC One HD	1.5	1.4	24.8	25.5	43.1	38.3
Mobile	iPlayer / iPad iPlayer	1.2	1.2	27.2	23.9	45.6	38.1
Online	BBC One Online	1	1.1	24.4	22.0	39.5	40.4
Total		1.2	1.2				
Broadcast	MTV transmission	2.8	2.8	43.8	57.8	64.0	76.3
Broadcast	MTV +1	2.8	2.9	43.8	62.3	64.6	78.1
Online	MTV online	1	1.3	33.3	34.3	57.6	65.6
Online	MTV OD	2.3	3.6	73.7	80.1	94.7	100
Total		2.3	2.6				