

<Ch>From Marketing to Performing the Market

<Sub>The Emerging Role of Digital Data in the Independent Film Business

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The global film industry has been radically disrupted by digital technology.¹ This research deals with the impacts of disruption in the non-studio, or independent film industry in the UK. Accounting for inflation, between 2002 and 2012 film revenues from physical formats fell by £908 million in the UK,² a decrease widely attributed to piracy and new consumption patterns of digital entertainment. In the same period video on demand (VoD) revenues increased only £164 million, while an average of twelve new feature films are released theatrically every week.³ In response to increasing financial pressure on films to find their audience, innovative producers are leveraging digital marketing and distribution technologies to develop new ways of creating market awareness and delivering films. Electronic home video, including VoD, is projected to become the main contributor to global filmed entertainment revenue by 2017.⁴ One implication is the move by film producers to capitalise more directly on international rights exploitation in some territories by circumventing traditional intermediaries via direct distribution services. Documentaries are at the forefront of this change because of two general characteristics. Compared to fiction films, documentaries tend to have lower budgets and, therefore, fewer ties to market financiers and affiliated historical distribution arrangements. Documentaries also enjoy more easily defined and located initial audiences to target due to their specific subject matter.

Digital marketing and distribution technologies, together labelled engagement tools, change the way the market is made for individual films. For example, producers

are able to use spreadable⁵ film trailers throughout a film's life cycle to develop interest, capture data and exploit intellectual property rights internationally. The generation of public awareness and conversion of such attention into practical support such as crowd distribution and, eventually, revenues is predicated on the use of social media measures and consumption data including 'Likes'⁶, 'Shares'⁷ and 'Views'.⁸ These can be conceptualised together as digital engagement metrics (DEMs) by looking at the agency they exhibit in coordinating activity. Such figures, also called social media 'buzz' or online word of mouth (e-WOM), are presented both in public and in generally unseen or 'black-boxed' private network arrangements for evaluation and mediation. This chapter shows they can be considered 'performative utterances' that take an active role in shaping the market.⁹

Drawing on participant observation of film marketing campaigns over an extended period, 2011–14,¹⁰ this research traces two feature documentaries to provide insight into emergent co-constitutive technological, economic and organisational developments in film marketing. Specifically, the chapter provides original empirical evidence of how new tools function as 'socially distributed points of sale', building network relationships between market actors such as companies and audiences. We interpret the conjoined marketing and distribution initiatives as transformations in the performance of market making.

<A>Literature Review: Market Devices and Digital Engagement Data in Film

The film industry has been studied from a variety of perspectives. The inherently quantitative format of digital data makes positivistic interrogations a popular approach for those investigating DEMs and film. Studies have quantified the predictive power on box office of aggregated blog references,¹¹ Wikipedia editing,¹² Tweet rates¹³ and

spread of quality-related Tweets.¹⁴ Such e-WOM activity involves feedback effects¹⁵ and research has determined that a large social multiplier exists.¹⁶ This literature is helpful in understanding the overarching connections between some digital engagements and financial returns. However, such approaches do not capture how such information is interpreted, formatted and applied within the industry. Therefore, the agency of such metrics in reshaping and partially performing the market is under-appreciated.

It is useful to adopt a complementary account, and theorise the materials, role and effect of networks, agencies and processes at work as a social construction. This approach is connected to the literature of market devices¹⁷ that build on multifaceted notions of market making.¹⁸ Recent marketing studies shed light on the importance of performativity, representation, calculation and materiality.¹⁹ Drawing on concepts from Actor Network Theory (ANT), economic sociology and social studies of finance, the combined role of market tools and ideas as enacted in marketing operations has come to the fore. This scholarship calls for sensitivity to ‘the hybrid combinations of devices, individuals and organisations that potentially partake in marketing’, also collectively called an ‘assemblage’.²⁰ An important process these elements are taken to co-produce is performativity. This term describes the way ideas about markets (theories and models) and marketing tools combine to shape markets they describe.²¹ Performativity and representation go hand in hand, and often rely on specific materialities to bridge between, or translate, practices appearing as ideas and images into individual market exchanges.²² For example, in social studies of finance, MacKenzie explores calculative formulae sheets as schedules for action and a prescriptive model to be enacted, or putting in motion the world they describe.²³

Social media data are noted to have performative characteristics – ‘they can generate user affects, enact more activities and thus multiply themselves’ – and rely on a ‘medium-specific infrastructure’ that simultaneously measures action as well.²⁴ The editable, interactive and distributed characteristics of digital objects mean they can be rearranged and disseminated.²⁵ The mass sharing of traceable digital objects produces metrics that enable quantified management processes in market construction. As multifaceted rankings, marketing metrics are not passive, but constitutive of the world, influencing the organisation of actors within the domain they create.²⁶ In the literature on creative industries Baym²⁷ explores the unseen, evaluative, constructive role of digital metrics in the music industry domain. Vonderau²⁸ analyses Warner Bros.’ notion of ‘connected viewing’, a controlled and narrowly defined scenario for internet distribution as a ‘productive’ organisational instrument. Both Facebook Likes and connected viewing are used to enrol other market actors, describe and make the market in a certain way.

<A>Methods: Participant Observation for Longitudinal Case Study

The view that markets are assembled – that is, not totally reducible to either rational actor models or institutional embeddedness – prompts a broadly constructivist methodology. The study adopts a longitudinal case study approach²⁹ to understand how digital data are taking a new role in film marketing. Two case films were purposively selected on the basis that they are produced by a company that specifically raised investment to try new digital business models and hired a new member of staff to pursue them. Therefore, the films are illustrative and, in some respects, revelatory in that the phenomena have not previously been studied.³⁰

Participant observation was sustained across the years 2011–14, resulting in the building of trust and, thereby, unfettered access to the film projects.³¹ Fieldwork included observing fifteen meetings or co-working practices as film marketing and distribution campaigns were planned and executed by the producers, executive producers and company directors. Observations lasted between one and six hours each and provided direct observational and open-ended non-structured interview data from extended informal conversations. These were analysed in conjunction with over eighty pages of email conversations. These emails discussed the detail of over eighty-five documents, including recoupment charts, budgets, finance plans, marketing plans, investment applications, press releases, PowerPoints, business plans and quantitative engagement results from online services, social media and film distribution services. Iterative comparison and thematic interrogation of the multiple types of data was undertaken to develop a corroborated insight into the role of DEMs in market assembly practices.

<A>Case Orientation: Motivation and Set-up for Innovation in Documentary Production

In 2011 the Scottish Documentary Institute (SDI) successfully applied to a National Film Fund for £100,000 to support their Virtuous Circle (VC) initiative (formerly called the ‘Micro Major Model’). The VC project is led by a specific member of staff called the producer of marketing and distribution (PMD). The motivation to apply digital disintermediation strategies for sustainability was conceived in response to the industrial challenges of digital disruption and historical characteristics specific to documentary that make its organisational process particularly unattractive and uncertain. Rather than a package of script, talent and budget that can be assessed by

financiers like a fiction film, a documentary is driven by subject footage: ‘By the time the narrative is discovered, 60–70% of the film is in the can and only then ready to be pitched to broadcasters and sales agents.’³² As a result ‘documentary is funded in a piece meal fashion stretching development money for as long as possible’.³³ This means production companies must effectively cashflow ‘early stage production’ without knowing that the film will generate a fee.

SDI’s approach to combat these problems rests on a number of interrelated creative and analytic capacities that restructure activity across all SDI’s film-making endeavours: ‘Central to this concept is that a virtuous circle derives from the positive reinforcement of outreach > engagement > retention (of audience) & direct relationships with stakeholders and audiences.’³⁴ SDI activity implements social media tools to: research, enter and develop online networks already interested in a film’s subject; attach these networks to the film through traceable digital connections; and exploit multiple types of engagement. The anticipated results are: a larger online audience to generate increased total revenues; a database of engaged fans to recycle between SDI films; the input of valuable resources such as donations throughout the extended lives of every film; and the capacity for direct distribution of finished films so as to obtain a larger than normal proportion of revenues. This activity requires continuous digital stewardship to manage the feedback loop.

In order to set the scene, the timeline in Table 1 provides a summary of events and concerns the films; *I am Breathing* (2013), the story of a young father’s last year with motor neurone disease and *Future my Love* (2013), an exploration of a radically different economic and social model.

<Table>

<Table hd>Table 1 Summary of market action events for *I am Breathing* and *Future my Love*

Date	Market action
2011	
February–May	SDI develops VC in conjunction with National Film Fund. Processes for linking digital audience engagement to financial goals are mapped out.
April–May	National Film Fund assessment and award of funding, works with SDI to set up monitoring and delivery systems.
June–July	Hiring of PMD.
August–December	Development of detailed benchmark for current documentary practices using past film. Preparation for sale, technology testing, audience engagement of first film on SDI portfolio, generation of different data categories.
October–December	Contracting, embedding measurement of digital variables in market assemblage.
2012	
January–December	Digital engagement activities including website design and builds, creation of www.nationbuilder.com (a website and client database service) databases, Facebook pages, Twitter accounts, negotiations on international rights sales, e.g., to foreign distributors, TV broadcasters, festival presentations of films, development and production of unreleased films.
June	Edinburgh Festival premiere of <i>Future my Love</i> .
October	SDI use nationbuilder contacts for industry enrolment, e.g., targeting TV commissioning editors.
2013	
January–April	SDI refinances the VC with new investment funds, concentrating on the film <i>I am Breathing</i> . Development of new digital technology with Distrify to enable innovative film sharing and social impact options including gifting and charity donations. Both films play at Hotdocs, North America’s largest documentary

festival.

Distributor Kinosmith buys Canadian rights to both films.

June	Edinburgh Festival premiere of <i>I am Breathing</i> with digitally enabled global screening day. VoD tool allows downloads for community distribution offline. Over 170 screenings in thirty-five countries around the world, some with Skype intros from team. Twitter and Facebook campaign of audiences submitting photos of billboard posters.
August	Email petition to get <i>I am Breathing</i> theatrically released, 2,000-signature target reached within days, 250 community and festival screenings.
August–October	UK theatrical release of <i>I am Breathing</i> , Twitter campaign started in 2010 with first co-production deal news, continuously engaging audiences, using subject-specific hashtags #MND #ALS in the newsfeed as well as film project development information.
September	Application of VC principles across to SDI's portfolio. US release of <i>I am Breathing</i> in Los Angeles and New York.
October	DVD and digital release of <i>I am Breathing</i> with inbuilt donation mechanism and online community hosting functionality.
August	Theatrical release (UK) leads to DVD and VoD release of <i>I am Breathing</i> .
November	Theatrical release of <i>Future my Love</i> (UK) <i>I am Breathing</i> directors win BAFTA Scotland Award.
2014	
March	'Pay it Forward' initiative enables film gifting and sharing for <i>I am Breathing</i> . Free <i>Future my Love</i> film vouchers launched on Zeitgeist day (part of a global sustainability movement with 30,000 Twitter followers and 151,000 Facebook Likes).

<Table ends>

<A>Discussion

So how do digital data play a role in performing the independent film market? The case speaks to two broad types of activity in which digital engagement tools, their metrics and associations display aspects of performativity. In these processes marketing is a fully complicit part of a cohesive whole that constitutes the market making of a given film.

The first set of actions concern the industry-focused construction of a market assemblage fundamentally reoriented to a digital action schedule. This involves the enrolment of traditional actors, such as investors, into SDI's conception of the market. The second component of the role of digital data in this context is the instantiation of new evaluation processes and the construction of new network relationships. Public audiences are enrolled as market actors in a non-traditional configuration: as co-distributors.

Such transformations rely upon the successful establishment of 'interessement'³⁵ between the network of individuals, companies and materials bringing the project to fruition. This is a process of co-definition, in which, through mutual adjustment or translation, the actors negotiate and set their identity and lock their position relative to each other for a certain time.³⁶ This enrolment is often mediated by material tools³⁷ and related to valuation procedures.³⁸ In this case digital engagement technology plays the key role. Public audiences are transformed into market actors as marketers and distributors through extended socio-technical work, including information dissemination and community building.

Hybridisation of established frameworks to enrol market actors

Key to the successful realisation of a market for any independent film is the enrolment of multiple actors with different specialisms. This involves the building and

maintenance of coordinating concepts, entangling the requisite partners and the creation of maps or plans of action. SDI achieved this through a number of different tools. Traditional market attachment devices were supplemented by the construction of measurement and reporting tools that enabled the investor, the National Film Fund to evaluate performance in a way both intelligible to themselves internally and in conversation with SDI.

This framework was labelled the ‘Master Sheet’ and its format was developed along the lines of conventional film business devices such as a ‘recoupment waterfall’ so as to associate metrics like ‘email sign-ups’ and ‘views’, with revenue figures. The document is written using common film language (deferrals, net profit, 50 per cent profit sharing), is easily circulated via email, readily altered for internal calculations and annotated for negotiation points. The Master Sheet is an excel spreadsheet compendium of film finance plans, recoupment charts, sales data and marketing analytics. Each VC film has a column and the sheet is split up into three horizontal sections: ‘inputs’, ‘outputs’ and ‘audience and following’. Financial data describing the life cycle of the film – development, production and marketing and distribution – are set out in segments. Part one, the inputs section, shows the sources of finance for the films’ development, production and marketing. As a corollary these figures also indicate the ownership of intellectual property and the relative recoupment positions of market actors. Part two shows whether rights have been pre-sold to distributors or TV companies and is continually updated to depict the ‘outputs’ or outcomes of such deals. The film’s exploitation in monetary terms includes figures for each distribution window – for example, theatrical and VoD, as well as other sources of income such as community workshops.

Part three of the Master Sheet collates the most important DEMs that SDI links to the financial performance above. Market-making activity, operationalised through tools such as nationbuilder, forms the daily work of the PMD and such data often pulls the team around it, becoming very influential. The SDI team make associations between digital and non-digital figures and calculate results that enable them to take creative decisions, allocate resources and construct the market for each film. For example, because DEMs are understood as evidence of consumer demand their relative performance on a geographic and distribution window basis informs SDI's evaluation of where to target their promotional activity and likely avenues for rights sales and influences deal term considerations. When such indicators are available early in the film's life and cross-referenced with offline marketing activities, SDI can ensure the film is available in all appropriate territories using internet distribution. SDI can act like a traditional sales agent, or generate revenue through 'rights retention by self distribution'.³⁹

When the networked marketing components, such as trailers, blogs and dispersed audiences, are partially decontextualised as aggregated totals, they simultaneously function as currency to demonstrate value to foreign broadcasters and film investors. Public-facing metrics such as Likes, Follows and Views are valorising and valuation mechanisms in that they produce and assess value. By liking a Facebook page, you judge it but also add to its total valuation score, which often alters the way others perceive it. A page with a few hundred Likes is viewed negatively and not worthy of one's time, a few thousand legitimises the media or brand represented as professional and serious. Such visible data are adjusted and reframed alongside private 'black-boxed' analytics data in the Master Sheet, forming a hybridised tool for market attachment. As Facebook Likes are reinscribed into other

syntactic forms – first into analytics software, then into data tables – they help to qualify a film as a market object. The film becomes finely distinguished by its many heterogeneous characteristics summarised in neat rows: its cost, its distribution in international markets and its social fanbase become understood as interrelated. DEMs provide a language; they perform a shortcut at an interface to make coordination and communication possible.⁴⁰

SDI's materialisation of associations between digital engagement and financial returns allows for shared calculations of value to be made across company boundaries, despite revolving around unfamiliar and uncertain information. The content and purpose of the Sheet was enshrined in legal contracts attached to economic transactions between investor and producer. This has the effect of solidifying the meaning, role and anticipated effects of the digital aspects of SDI's project. By financing SDI's VC initiative, the National Film Fund agreed with SDI's conception that the creative and analytic capacities of digital tools are inherently linked.

New technology and reconfigured market actor roles

While in aggregate DEMs have a market-shaping role by facilitating investment and distribution plans, explained above, technological intervention also has a much more visible performative aspect. Both films enjoyed extended engagement campaigns utilising social media, blogs, websites, email marketing and offline festival promotion. At the heart of this activity was the use of the Distrify player, an embeddable, shareable video player that is both film trailer and VoD platform. It is a marketing and sales tool that implicates the social networks that host it as co-distributors. Initially placed on the films' websites and Facebook pages and then

spread far wider, the player can generate a large amount of data. The following screen shot displays both the trailer window and illustrates the connected statistics.

<Screen shot>

The screenshot displays the 'I Am Breathing' video player interface. At the top, a light blue banner states 'Your film is ready to share!' and provides a verified embed link: <http://www.lambreathing.com/film>. Below this are social sharing buttons for Facebook, Tumblr, and Twitter, along with a 'Pin it' button. A secondary option to 'Embed on Fan Page' is also visible.

The main player area features a video player with the title 'I AM BREATHING' and icons for 'Follow', 'Share', and 'Embed'. A central navigation bar contains three colored arrow buttons: a red 'PLAY TRAILER' button, a green 'RENT FILM' button, and a blue 'DVD & MORE' button. The video player controls at the bottom include a volume icon, a language selector set to 'EN', and a 'HELP' icon.

On the right side of the interface, there is a 'Follow this Film' button and a 'Facebook Connect' button. Below these are two analytics panels. The first panel, titled 'YOUR AUDIENCE / SALES', lists the following statistics: 127,813 Player Loads, 26,751 Previews, 793 Sales, 3.0% Preview Conversion, 0.6% Load Conversion, and 1,038 Followers. It also notes that stats were updated about 1 hour ago and provides a link to 'Player statistics'. The second panel, titled 'YOUR AUDIENCE / SALES', offers a 'View & export followers (mailing list)' option and a button to 'Click to change the general affiliate rate or set up special rates for specific affiliates'.

<Screenshot hd>Screenshot 1 Distrify VoD player and analytics data for *I am*

Breathing

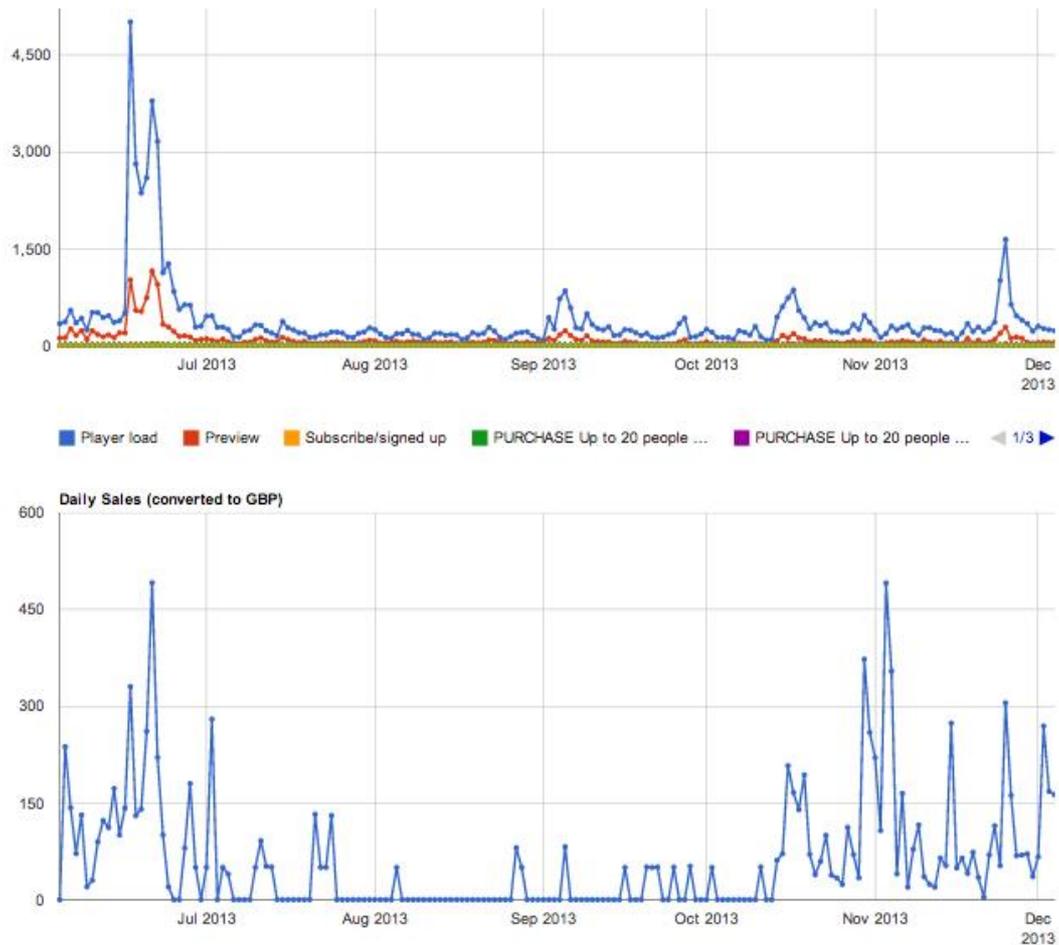
<Screenshot ends>

This player gives three central options in its arrow icons: 'Play Trailer', 'Rent Film' and 'More'. The first two options are self-explanatory and generate many of the figures on the right-hand side of the screen. A ratio describing how many users have watched the trailer and then gone on to purchase the film – 'preview conversion' – is one example of a causal connection between marketing activity and financial return.

This is a key DEM used by SDI in managing their audience engagement activity. The player is connectable to Facebook, Twitter, Pinterest and Tumblr; SDI is able to trace the source of users into the player. This enables cross-referencing of social media marketing with conversions to purchase. The sales can be segmented by time, geography and type. This fine-grained analytical toolset enables SDI to make connections between all aspects of their audience engagement strategy and market results.

The options to Follow, Share and Embed in the top right of the player window are also important. The sharing function notifies the user's own social network that they have engaged with the film, but also shares the player and thus the opportunity to rent, buy or share the film itself, rather than solely information about it. The embed option in the top far right of the player allows the user to host the film on their own website or blog, thereby widening the distribution infrastructure of the film. All of these options attach the user to the market assemblage of the film in a quantifiable way. The network of users who are enrolled and assume agency in economic transactions is traced, fed back into the producer's calculative framework and impacts a subsequent transaction. For example, spikes in sales in the graphs below on the global screening day and UK festival premiere for the film in June 2013 were associated with significant increases in digital engagement.

<Screenshot>

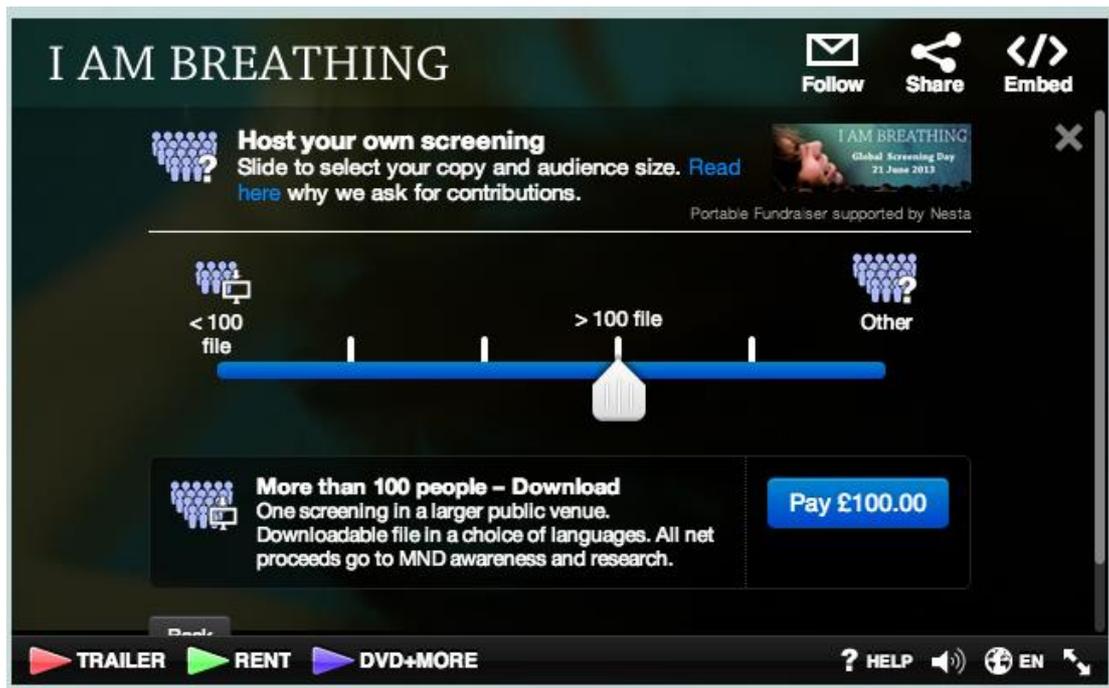


<Screenshot hd>Screenshot 2 Distrify analytics data for *I am Breathing*

<Screenshot ends>

Through its user experience design and connectivity to other web services the players can combine with users to perform a conjoined promotion and distribution role. This constitutes an innovative reconfiguration of the film market, which was further developed via a specifically targeted technological interface to facilitate community screenings for *I am Breathing*. In the following illustration the shareable trailer player shows a sliding scale that indicates how large an audience can be reached through each digital format and with what economic transaction. Built into the facility to host a screening and become part of the theatrical distribution network are also the marketing tools to promote it.

<Screenshot>



<Screenshot hd>Screenshot 3 Distrify VoD player displaying community distribution tool for *I am Breathing*

<Screenshot ends>

The technology for *Future my Love* was also redeveloped to fit a particular social purpose. One example is the development of a ‘Pay it Forward’ tool: a film gifting option set up to enable users to send on the film to friends to watch for free. This was conceived to align the marketing and distribution structure to the subject matter, which concerns alternative non-monetary societies.

<Screenshot>



<Screenshot hd>Screenshot 4 Distrify VoD player displaying Play it Forward toolset for *Future my Love*

<Screenshot ends>

The user interface for each film was subtly altered at different periods of the release. An arrow linking to cinema listings gave way to ‘DVD’, then to options for gifting, or for *I am Breathing*, to donate to the MND Association. The social contexts and material elements of the digital devices simultaneously shape each other.⁴¹ This impacts their further circulation and adoption, which feed back into organisational decisions. The quote below illustrates the design for engagement and reorganised schedule enabled by new digital methods, upon which further market-shaping activities are based:

<Ext>

Over the months leading up the launch ... the PMD together with tech consultant and graphic designer have been able to plan, design, and implement ... a comprehensive website with many options for engagement (word-spreading, feedback, requesting screeners, hosting screenings). Traditionally,

these interactive aspects were not tackled prior to completion of a documentary, or even months [after].⁴²

<Ext ends>

Digital interactions between film producers, film content and audiences that create networks of marketing awareness and potential channels of distribution are inseparable from the DEMs that both describe and mobilise the market.

Understanding this emerging film marketing trend in terms of a performative socio-technical assemblage helps to contextualise film in the digitally disrupted era in relation to how other creative goods are produced. As Entwistle and Slater⁴³ interpret a fashion model's look, a film also emerges from, and is sustained by, an extended apparatus of interconnected arrangements, including calculative frameworks. In this case the arrangements are reliant upon and enacted through their digital materiality. DEMs are constructed as having value in regard to both social impact⁴⁴ and financial returns and this adds to the importance of a broadened understanding of marketing as part of market making in the current film industry.

This chapter shows how new digital engagement tools, through the connective and calculative capacity of their metrics, reconfigure the market for SDI's documentaries and should prompt a broader view of what constitutes film marketing. Through the mobilisation of ideas, materials, technology and networks of market actors DEMs help to construct the market for a given film. This leads to film-makers taking on new roles as data managers and audiences to obtain new agency as marketers and distributors. These innovations are predicated on the manipulability and quantifiable nature of digital technology. SDI is able to spread the means of distributing their films

as an engagement strategy in itself. This creates communities and calls them to action while SDI continually adapts the technical and creative material to the specific subject and life stage of their films. This is an increasingly complex process with multiple layers of valuation. An audience member may view a trailer, recommend the film to Facebook friends and even co-distribute a film on VoD by embedding a player on their webpage; this visible, conscious market action is traced digitally. These traces are quantified as DEMs, aggregated, fitted into frameworks and used as currency in further arrangements for market construction.

<A>Notes

¹ This work is produced with the great support of ESRC Capacity Building Cluster: Capitalising on Creativity, RES 187-24-0014, and the help and insight of Noe Mendelle, Sonja Henrici and Ben Kempas of the Scottish Documentary Institute.

² British Film Institute (BFI), *Statistical Yearbook 2013*, <http://www.bfi.org.uk/sites/bfi.org.uk/files/downloads/bfi-statistical-yearbook-2013.pdf>, p. 162.

³ Ibid., p. 14.

⁴ ‘Digital Home Entertainment to Exceed Physical by 2016, Study Finds’, *Variety.com*, 3 June 2014, <http://variety.com/2014/digital/news/digital-home-entertainment-to-exceed-physical-by-2016-study-finds-1201207708/>

⁵ Henry Jenkins, Sam Ford and Josh Green, *Spreadable Media: Creating Value and Meaning in a Networked Culture* (New York: New York University Press, 2013). The authors define content and technology that is easily shareable online as spreadable, as opposed to using biological metaphors such as virality.

⁶ ‘Likes’ are a metric generated from the Facebook social media platform and available throughout the web as part of that network’s social graph (see <https://developers.facebook.com/docs/plugins/like-button>). The clicking of the Like button is a somewhat public statement of evaluation by the user regarding the piece of content to which the button is attached.

⁷ ‘Shares’ are also a count, reflecting the use of a ‘social button’, which, in relation to Facebook pushes the chosen content out to the user’s social network (see <https://developers.facebook.com/docs/plugins/share-button>).

⁸ ‘Views’ are a common metric describing the amount of times a video has been watched, the popularity of the term can be ascribed to YouTube. See <https://support.google.com/youtube/answer/1714329?hl=en>

⁹ Michel Callon, ‘What does it Mean to Say that Economics is Performative?’, in Donald Mackenzie, Fabian Muniesa and Lucia Sui (eds), *Do Economists make Markets?* (Princeton, NJ: Princeton University Press, 2007), p. 317.

¹⁰ The first author worked as a representative of a public investor in numerous of the producer’s projects.

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- ¹⁹ Johan Hagberg and Hans Kjellberg, ‘Who Performs Marketing? Dimensions of Agential Variation in Market Practice’, *Industrial Marketing Management* vol. 39 no. 6, 2010, pp. 1028–37.
- ²⁰ *Ibid.*, p. 1029.
- ²¹ Callon, ‘What does it Mean to Say that Economics is Performative?’, p. 317.
- ²² Hans Kjellberg and Claes-Fredrik Helgesson, ‘Multiple Versions of Markets: Multiplicity and Performativity in Market Practice’, *Industrial Marketing Management* vol. 35 no.7, 2006, pp. 839–55.
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- ²⁷ Nancy Baym, 'Data Not Seen: The Uses and Shortcomings of Social Media Metrics', *First Monday* vol. 18 no. 10, 2013,
<http://firstmonday.org/ojs/index.php/fm/article/view/4873/3752>
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- ³¹ Danny Jorgensen, 'Participant Observation: A Methodology for Human Studies', *Applied Social Research Methods Series* (London: Sage, 1989).
- ³² Micro Major Investment Proposal, 25 February 2011.
- ³³ VC Investment Assessment Form, 14 March 2011.
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³⁷ David Stark and Verena Paravel, 'PowerPoint in Public Digital Technologies and the New Morphology of Demonstration', *Theory, Culture & Society* vol. 25 no. 5, 2008, pp. 30–55.

³⁸ Callon, Millo and Muniesa, *Market Devices*.

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⁴⁰ Mahmood Zargar, 'Managing Knowledge Boundaries in Bioinformatics Research Units', Conference of the European Group for Organisational Studies, 4 July 2013.

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⁴² VC Project Update, August 2012.

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