

Digital Engagement Metrics: the construction of a market device in the UK Film Industry

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Summary

Digital technology is transforming the independent film industry, in fundraising, marketing and distribution as well as production. Documentary film is at the vanguard of such change. Digitally mediated social networks do crucial work in the financing, promotion and delivery of creative content. Management of these resources is increasingly important for revenue stream diversification and business model development in pursuit of sustainability. By conceptualising these phenomena in relation to producers' management of demand uncertainty, digital materials, connections and agencies can be insightfully examined as part of market devices. In order to understand role of digital engagement in market construction and operation, this paper presents a case study tracing the life cycles of six documentaries over two years. The entanglements, framings and calculative processes involved in bringing the films to audiences are analysed in terms of market agencements and the organising function of Digital Engagement Metrics (DEMs) is highlighted.

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Introduction

This paper presents rich empirical evidence of changing market practices in a particular creative industry context. By asking how Digital Engagement Metrics (DEMs) “intervene in the construction of markets” (Callon et al 2007:2) this research provides insight into the complex role of digital technology in market organisation. Through application of theoretical concepts drawn from market studies (Caliskan and Callon 2010) and the social studies of finance (Hardie and Mackenzie 2007) the paper examines digital phenomena in a manner that accounts for their performative, material, networked, calculative and ‘agenced’ nature (Callon et al 2007:2).

The film industry is currently experiencing extreme disruption due to the adoption of digital technology. The effects of disruption, notably characterised as results of piracy, include drastically decreased returns from home entertainment rights exploitation. UK film revenues from physical video rental and retail fell by £564m between 2003 and 2010, with Internet and TV Video On Demand (VOD) rising only £101m in the same period (BFI 2011). This has engendered change in the way film producers manage their businesses. Such changes can be usefully characterised in terms of strategic responses to uncertainty.

Film practitioners experience extreme uncertainty in relation to economic returns (Vogel 2007), despite the absence of reliable predictors of revenues based on objectively rational probabilistic risk (De Vany 2004), the industrial financing, production and sale of films is still achieved. Traditionally this market organisation has been conceptualised by the Film Value Chain (FVC) (Finney 2010). The FVC depicts the structure of the industry in terms of the life cycle of a film, which is segmented into sequential stages: development, financing, production, sales, distribution and exhibition. Different company combinations with specialised segment specific tasks take on responsibility and the relative financial risk and reward at each stage. Depending on how directly they bear the weight of consumer demand uncertainty, practitioners develop different management strategies. For example, producers sell on the promise of future paying viewers (and the majority rights to such revenues) to companies downstream in the chain e.g. distributors, thereby raising external finance to make their film.

Decreased overall revenues as a result of digital disruption have made the traditional FVC untenable and motivated alternate strategies by producers. These may be summarised though two interrelated strategies, each involving deviation from producers’ traditional modes of operation. The first uses digital assets and services: video, online games, transmedia storytelling, and dissemination tools: social networks, blogs, streaming and download services, to create greater consumer demand and thereby increase total revenues. Predicting audience behaviour on the basis of social media data (Asur and Huberman 2010) and leveraging crowd financing as marketing (Seog and Hyun 2009), are examples of the exploitation of early stage audience engagement. The second strategy adopted by producers is dependent on the success of the first, is disintermediated distribution, i.e., taking a proportionately greater share of total revenues by circumventing traditional gatekeepers. This paper

presents evidence of the practical application of both strategies across a portfolio of documentary films with a focus on DEMs as a market device.

Theoretical Context

The market studies literature pays attention to the web of people and everyday artefacts (D’Adderio 2008; Doganova and Eyquem-Renault 2009) or ‘fixtures and fittings’ (McFall 2009: 271) that organise the market. The literature often adopts the notion of agencement: “the material and discursive assemblages” (Callon et al, 2007, 7) that form a market, or in this paper, the digital market device. It is by these means – the elements assembled - that economic action is helped or forced (Callon et al, 2007). Transactions occur despite the ambiguous environmental conditions, uncertain nature of products and conflicting agents that complicate market exchange (Callon and Muniesa 2007). Scholarship on market devices recognises that agency is distributed and embodied in various changing combinations (Hardie and MacKenzie 2007) and that the crucial evaluative capacity of markets is analysable through discovering the configurations and roles of context specific networks of assemblages (Holm 2007).

The method of market device analysis is to chart the specific configuration of the market agencement and from that collective, derive a better understanding of market organisation processes. The socio-technical elements that are configured include the component agencies of assembled humans (individual and group) and physical and digital materials. Understanding their nature and operation requires the analysis to “respect and render” a “diversity of forces” including a “panoply of entities” that are to “be flexibly taken into account and described, in detail.” (Caliskan and Callon, 2010, 8). Examples of market devices being characterised as agencements for explanatory purpose spread across domains of finance and technology. Hardie and Mackenzie (2007) conceptualise a hedge fund, an economic actor, as an agencement. Muniesa (2008) considers legal and technological devices as agencements.

This research specifically investigates the role of DEMs as a market device by conceptualising DEMs as an economic actor with agency amongst the multiple composite elements that form the market for documentary films. DEMs may include social media data, viewing, download or purchase data. Film producers’ digital engagement and digital disintermediation strategies, which aim to reduce consumer demand uncertainty, involve large social networks to enrol both companies and audiences. These networks exert agency through benchmark metrics that are constructed to correlate with economic return. Though their calculative capacity these DEMs enable evaluation and decision making to facilitate market exchange, including across boundaries between market participants with non-aligned conceptions of value. It is by tracing the particular configurations of the device, the DEMs in action, that their success or failure in market construction can be understood (McFall 2009). For this reason the market activity of the Scottish Documentary Institute’s (SDI) six-film portfolio is conceptualised with reference to market agencements (Callon and Caliskan 2010) and data points across the life cycle of different films are examined.

Methods

A case study approach was adopted in order to obtain a richly detailed, contextually embedded picture from multiple data sources (Yin 1994). The methodology is oriented from a position that the dynamic work of individuals, companies and their

co-constituted networks must be taken into account when examining digital metrics. Exploring the configuration and instantiation of market devices through rich description of observed empirical cases is an established method in the literature and fits well with past calls for further research (Doganova and Eyquem-Renault 2009; Callon et al 2007). Taking a purposive sampling approach (Silverman 2005), SDI's portfolio was selected as they form part of an innovative initiative to utilise digital engagement tools (the Virtuous Circle project). However the cases can be considered 'typical' in relation to the other features of independent documentary film (Dul & Hak, 2008) that remain unchanged: production, topic, market and the involvement of established companies in the industry.

The data collection process was based upon a participant observer approach. This delivered data for a longitudinal case study comprising market action across six films at different stages of their life, from development through to final exploitation. The case describes how the production company pursued digital strategies to get these films to audiences. Empirical fieldwork included observing 15 meetings ranging between 1 hour and 6 hours in duration, involving producers, executive producers, the producer of marketing and distribution (PMD) and company directors. Field notes of these interactions were revisited in conjunction with over 70 pages of email conversations between practitioners detailing the relevant financing, production, marketing, and distribution strategies. Email discussions generally focused on key strategic materials crucial to building the market for a certain film or film slate. Such materials include: marketing plans, distribution contracts, recoupment deal terms, management budgets and revenue data. More than 80 such documents were collated and cross-referenced for systematic reflections and interpretation.

The data analysis methods used to interrogate the empirical material and produce case analyses follow a structural thematic approach. An integrated process of description and explanation was undertaken (Akrich et al 2002). Rather than adopting a prepared list of characteristics to look for a priori, categories were developed from experience in the field (Fitzgerald and Dopson 2009). Having developed initial, broad labels for themes to capture explanatory elements of market construction, and performed a first round of open level coding of data on that basis, a second stage of reflection and finer categorisation was then undertaken after revisiting the data (Miles and Huberman, 1994). Emerging themes of communication across boundaries (of the traditionally conceived FVC), and arrangement of materials for framing calculation, were pulled out from comparing qualitative and quantitative results of digital engagement campaigns with producers' opinions regarding their effects, especially with regard to audience response and other companies' reactions to such. This triangulation process has contextualised the data to ensure robustness of the findings and limit bias (Börjesson and Elmquist 2011).

Case Setting

SDI: a film production company successfully applied to a public funder for £112,000 to support their Virtuous Circle (VC) initiative. Based on the use of digital audience engagement tools and facilitated by a designated member of staff (PMD) the VC works to positively impact the production company's position. Digital engagement is aimed at increasing audience demand and capitalising on this via fundraising and direct disintermediated distribution. The motivation for VC is to alter the established way of organising documentary financing and production, a practice that has failed to

create profitability or sustainability. Historically, producers have developed and produced documentaries on a project-by-project basis, for a fee from the production budget and participation in the limited revenues returning from sales of the film to international sales agents, broadcasters, and distributors. Producers do not invest in production, instead, budgets are continuously pieced together from a patchwork of sources. Examples include: public funders, sales of broadcast rights to TV channels and foundations related to the subject of the documentary. The production company relies on a film going into official production (and therefore fees being paid), as opposed to recouping and profiting from investment.

Due to the fact “*documentary is funded in a piece meal fashion stretching development money for as long as possible*”¹ managing the uncertainty of financial returns in documentary filmmaking is difficult and unattractive. Rather than a package of script, talent and budget that can be assessed by financiers like a fiction film, a documentary is driven by footage of the subject; “*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*”². Film development involves a lot more footage to be shot before investors will guarantee production finance. This means production companies must effectively cashflow “extended development” or “early stage production” without certainty that the film will go into official production and thereby earn a fee. Due to this an additional problem often occurs, costs are often simply run into the overall production budget and therefore not paid back on the first day of principal photography as per fiction films. Instead such costs are recoupable from the exploitation of the finished film.

Overarching market trends, in part facilitated by digital disruption also impact the documentary sector. Revenues from DVD and other sources have declined, reducing the amounts available for new film commissions and acquisitions. Taken together these conditions have stimulated SDI to pursue digital audience engagement as a stated strategy to directly manage perceived consumer demand uncertainty. The portfolio or slate of six films that form the basis of the new model are: 1. *The Edge of Dreaming*, 2. *Stem Cell Revolutions*, 3. *I Am Breathing*, 4. *Future My Love*, 5. *Being David Millar* and 6. *Hospice the Musical*.

Films 1 to 4 have been released during the period, going through elements of production, editing, international sales, festival releases, theatrical and DVD / VOD exploitation. The other films on the VC slate are yet to be released, but have been in the financing and development process. This breadth of evidence is important because one of the anticipated benefits of digital engagement by SDI is the recycling of audiences and finance between films over time. For each film in the VC portfolio and for action applicable across all the films I have traced the planning and execution of digital market engagement activities and all attendant results. Materials and events involved include: pitches for investment, social media marketing campaigns and financial calculations linking economic transactions to digital metrics. Using this data I account for the new organising role of digital technology that represents a shift in how temporary organizational enterprises – the companies (and now audiences) involved with each film, interact.

¹ VC Investment Assessment 14.3.11

² Micro Major SDI Investment Proposal 25.2.11

The day-to-day action includes a large variety of complex and related tasks. Some work involves the generation of text copy and audiovisual digital assets, their dissemination over social media and VC created websites. The resulting data is then managed to drive deeper relationships with audience members and digital sales (film copies, tickets, donations). Such sales require the negotiation of distribution deals, the planning and execution of marketing campaigns and coordination with offline events. VC workflow is integrated with SDI's traditional tasks such as film development, production and releases at festivals. Over time DEMs are aggregated, and folded in to more and more processes. Ever increasing amounts of information, often from innovative technological developments such as *I Am Breathing's* global screening day, are arranged in databases to facilitate management practices. These arrangements contribute to the increasing instantiation of digital market devices in SDI's world. A feedback loop is in operation and multiple screens are required to interact with incoming streams of metrics, which are appraised, rearranged and manipulated to mediate a subsequent interaction.

I Am Breathing – Spreadable trailer / screening generator

"Intimate documentary examining a normal-but-remarkable man and wife's handling of his fatal disease ranks among the year's most moving films."
The Hollywood Reporter ([more reactions here](#))

I AM BREATHING

Follow Share Embed

Host screening on or after 21 June
Slide to select your copy and audience size. [Read here why we ask for contributions.](#)

Portable Fundraiser supported by Nesta

< 100 file Other

Up to 100 people – Download
One screening in a mid-size community venue. Downloadable file in a choice of languages. All net proceeds go to MND awareness and research.

Pay £50.00

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Timeline

On a continuous basis during the case, the PMD worked on digital engagement for each of the six films as well as for SDI overall. Obtaining investment and determining metrics for the public investor's contractual agreement lasted throughout 2011. Attention was generally focussed on specific projects in the order at which they came to market but with particular events such as festival premieres taking precedence at various times.

Digital Engagement Metrics: the construction of a market device in the UK Film Industry

Date of Activity	Market Action
2011	
February-May	SDI develops their proposal, in conjunction with a development officer from the public funding body. The project proposed for investment is called the Virtuous Circle, a plan to improve the financing, distribution and profitability of documentary film by leveraging digital audience engagement.
April-May	Public Funder assesses and awards funding and spends the rest of the year working with SDI to set up digital engagement monitoring systems, along with oversight of other deliverables.
June-July	Hiring of Producer of Marketing and Distribution
August-December	Development of detailed benchmark for current documentary practices: <i>The Edge of Dreaming</i>
	Preparation for sale, technology testing, audience engagement of first film on SDI slate of six films: <i>Stem Cell Revolutions</i>
October-December	Contracting with public funder, defining digital variables to be measured and recorded
2012	
January-December	Digital engagement activities for slate of films including website design and builds, creation of Nationbuilder (political campaigning software program) 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 International Festival premiere of <i>Future My Love</i>
July-December	International rights sales and online distribution of <i>Stem Cell Revolutions</i>
October	<i>Stem Cell Revolutions'</i> subjects win Nobel Prize, SDI use Nationbuilder contacts to target TV commissioning editors and sell the film to Japan and a European broadcaster.
2013	
Jan-April	SDI Refinance the work of the VC with new investment funds including Nesta as a backer, concentrating on the film <i>I am Breathing</i>
June	Edinburgh International Festival premiere of <i>I am Breathing</i> with digitally enabled global screening day.
	Application of VC principles to SDIs work on films outwith the project slate, including <i>Pablo's Winter</i>
August	Small scale theatrical release leads to DVD and VOD release of <i>I am Breathing</i>

Case Analysis and Discussion

Having traced the market activity over a number of years, developed case narratives, and iteratively reappraised them with reference to the literature, a number of case features presented themselves as highly important. These elements: construct building; enrolling market actors; materialisation of back-end data; embedding in established tools, and DEMs as currency, are illustrated in the following section.

Construct Building

The construction of new market agencements is rooted in the comparative differences perceived in the potential successes of Films 1 and 2-6, with the latter set being digitally enabled. The PMD noted in a project update that for Film 1: *“Looking back at Analytics data today, the dates of the TV broadcasts show a surge in traffic that wasn’t really capitalised upon at the time. In particular, the Channel X broadcast in 2010 accounted for approximately 3,000 visits – around 20% of the all-time total.”*³ The direct distribution possibilities afforded Film 2 were taken as means by which consumer demand (as indicated by web traffic) could be exploited: *“In the first month of actual sales the total net income from these niche products was around £X, SDI aims to maintain this level through constant digital engagement and outreach to educational institutions...these first sales in July were triggered by 590 trailer views in the same month, from which an overall target of 8676 views can be derived. The current conversion rate of trailer views to sales at around 5 per cent is high by industry standards”*⁴. The team constantly and repeatedly linked DEMs such as trailer views, Facebook ‘likes’ and Twitter ‘followers’ to economic revenue, often despite an empirical causal gap. DEMs encompass the hundreds and thousands of personal social connections created by certain creative assets. DEMs also exhibit agency, the anticipated ticket sales calculated as a result of DEMs drove decisions for particular digital release strategies and thus the specific configuration of market transaction. In internal conversations, in negotiations with other market actors and via industry documents, connections were made between digital metrics and market activity. In this way layers of meaning were built up to instantiate DEMs into the industrial process.

Enrolling market actors

A crucial way that DEMs have become part of operations is through performing tasks of enrolment – bringing audiences and other film businesses into the world of particular films. The initiative to undertake marketing and distribution tasks as a producer and to do so early in the life of a film, is a shift in activity afforded by digital technology. The intent that digitally engaged audiences of one film be recycled or maintained for other films on the VC slate is a plan dependent on the longitudinal management of digital data as a valuable resource. SDI note the Virtuous Circle evinces a: *“Business led strategy, not just project-led, via audience aggregation across projects Creating a virtuous circle. Audience engagement flows from beginning of one project until the end, in order to be retained for the next project”*⁵ The accumulation of audience members, their introduction to other films and their

³ Virtuous Circle Project Update August 2012

⁴ Virtuous Circle Project Update August 2012

⁵ New documentary financing through audience engagement PowerPoint proposal 14.3.11

enrolment in the market activity of such films is captured by the work of DEMs. Digital data exert agency in a number of ways. One such way is through the power of sheer weight of numbers: “X many people want to see this film” is a logic assumed by SDI to hold value with other market actors such as TV broadcasters or sales agents. Another way is in the maintenance of the social network over an extended period. Knowing how many people in total ‘like’ a film is one thing, being able to contact each individually and leverage their interest through a fine-grained set of options (crowdfunding donation; DVD purchase; VOD stream; screening host etc.) is another.

The promissory logic of such market action was presented to investors in multiple iterations of business plans, diagrams and pitch statements. These materials successfully enrolled a public funder in SDI’s VC market construct. SDI were able to obtain £112,000 investment, providing the first concrete economic transaction to begin the process of reifying the new market agencement. A graphic representation of the VC project was taken on-board by the public funder and used in their own decision making systems. Once ‘greenlit’ by the first tranche of investment, the concretisation process began in earnest through the work of the newly created staff position the Producer of Marketing and Distribution.

The pulling together of a complex framework composing networks of information, objects and people, privileging DEMs is an extensive, large-scale work of construction. Analysing how the information is presented helps to understand how it matters, how it builds bridges between market actors. For *Stem Cell Revolutions*, the capacity of digital objects to be quickly edited, transferred and specifically directed resulted in achieving visibility for the film in the marketplace and attracting TV sales from market actors: “*In October 2012, it was announced that two of the scientists in the film were to receive the Nobel Prize in Medicine. With the PMD able to react quickly, SDI used this event to generate publicity for the film, to offer special discount celebrating the Nobel Laureates, and a series of special screenings (some free, some in cinemas generating additional income).*”⁶ SDI’s focus on digital media marketing, leveraging established social networks meant that communication could be spread fast and to those who are known to have a likely interest.

The digital outreach and engagement work that forms a foundation of the VC project provides SDI with a network of market actors potentially interested in the film. This meant: “*SDI would be able to use the occasion of the Nobel Prize to offer the film to broadcasters, something that was originally not intended for this kind of film. Given SDI’s new NationBuilder CRM (Customer Relationship Management) can be used equally for audience contacts and industry professionals, the PMD was able to address all commissioning editors with slots for science documentaries very quickly. Consequently, SDI has just received offers from a Japanese distributor (\$X,000 minimum guarantee) and a European broadcaster (€X,000). SDI expects to receive a X percent share from these sales, as it acts more like a traditional sales agent in these cases.*”⁷ The possibility of digital disintermediation (selling films or rights more directly) motivated SDI to obtain and maintain a database of market actors. This digital database, combined with targeted digital marketing has resulted in a sequence of positive market transactions.

⁶ Virtuous Circle Project Update August 2013

⁷ Virtuous Circle Project Update August 2013

Digital Engagement Metrics: the construction of a market device in the UK Film Industry

Materialisation of back-end data

For recording digital engagement and calculating expected revenues a key tool, the “VC Master Sheet” was constructed. This Excel spreadsheet charts the life of each film, its financial inputs and outputs for each set of saleable rights. Aligned against these figures are the engagement metrics such as website sign ups and social media interactions. This “Master Sheet” was presented to the project investor in order obtain tranches of financing. The tool is very important for making visible the newly conceived links between certain digital interactions and established film business results. The sheet encompasses the whole SDI slate (columns for other films run further along from the right hand of the selection presented). The innovative arrangement of information is a visual representation that adopts syntactic concepts from established communicative tools such as the film recoupment chart. It is important to understand how the material composition of the sheet enables it to function as an organisational tool.

The sheet is split up into three horizontal sections: “inputs”, “outputs” and “audience and following”, with financial inputs running through the life cycle of the film – development, production and marketing and distribution. Part one, the top, inputs section shows the sources of finance for the films’ development and production. These finance plans also indicate the ownership arrangements of the intellectual property and whether rights have been pre-sold to distributors or TV companies. Information is pulled from multiple sources and collated. Details from finance plans, budgets and sales deals are drawn together for interpretation so that the amounts recoupable are clear and the rights still available to exploit are apparent. Each film has its status (in production, distribution) and the role SDI has in relation to the film (producer and distributor, distributor only) defined at the top of the appropriate column.

Master Sheet Part 1

Status	Distribution Completed		In active distribution, never intended for TV			First festivals, distribution negotiations		
SDI Role	Housed Production (only in-kind support)		Distributor (online and DVD, non-theatrical)			Co-Producer and Self- or Joint Distributor		
	actual	remarks	to date	target	assumptions	to date	target	assumptions
INPUTS								
Development	This is cash only, not including in-kind support.							
SDI		SDI only in-kind support			SDI not involved	£ 1,500.00	£ 1,500.00	plus in-kind from
Partner 1	£ 11,000.00	Productions				£ 11,250.00	£ 11,250.00	
Partner 2								
Partner 3								
Total	£ 11,000.00				N/A	£ 12,750.00	£ 12,750.00	plus in-kind
Production								
SDI		only in-kind support (offline edit to go in			SDI not involved	£ 23,136.00	£ 23,136.00	plus in-kind and
Partner 1	£ 50,000.00	Channel (co-pro)						
Partner 2	£ 50,000.00	Screen (co-pro)				£ 67,000.00	£ 67,000.00	
Partner 3	£ 32,300.00	(£ 38,000 pre-sale)				£ 17,481.00	£ 17,481.00	SVT plus in-kind
Partner 4	£ 17,000.00	(£ 20,000 co-pro)				£ 47,867.00	£ 47,867.00	SFI
Partner 5	£ 33,390.00	\$ 53,000 pre-sale)						
Partner 6	-£ 4,000.00	(co-pro fee)						
Partner 7								
Partner 8	-£ 4,000.00	Passion Pictures (co-pro fee)						
Total	£ 174,690.00				N/A	£ 155,484.00	£ 155,484.00	plus in-kind ar
Marketing & Distribution								
SDI			£ 1,000.00	£ 1,000.00	SDI		£ 1,000.00	SDI
Partner 1		external distributors	£ 13,000.00	£ 13,000.00				
Partner 2			£ 4,537.50	£ 5,000.00			£ 20,000.00	
Partner 3								
Total	£ 0.00		£ 18,537.50	£ 19,000.00		£ 0.00	£ 21,000.00	

Part two of the Master Sheet, the outputs section, breaks down exploitation rights and territories, providing estimates and actual revenues for each combination. Sales to other market actors or directly received revenues are brought together so that comparisons can be made and decisions over setting price points, deal terms, or likely

Digital Engagement Metrics: the construction of a market device in the UK Film Industry

revenues able to be recycled can be set. For example the estimates for *Future My Love* are reliant on calculations framed by multiple data sources relating to previous films: “Through the PMD’s additional engagement work, SDI hopes to generate a net share of around £X worldwide. The target was set at X times the amount that *THE EDGE OF DREAMING* achieved theatrically for the producers and investors.”⁸. The technical, calculative process of setting targets, which lead to particular sets of market actions, for example negotiations or distribution choices, is facilitated by the material composition of the Master Sheet. The reason for such complexity is the myriad new opportunities afforded to the production company through digital technology and the data that these options throw off.

Master Sheet Part 2

Status	Distribution Completed		In active distribution, never intended for TV			First festivals, distribution negotiations		
SDI Role	Housed Production (only in-kind support)		Distributor (online and DVD, non-theatrical)			Co-Producer and Self- or Joint Distributor		
	actual	remarks	to date	target	assumptions	to date	target	assumptions
OUTPUTS								
These are returns to the producers net of VAT, exhibitor's & distributor's expenses, fees, and shares.								
Theatrical								
UK	£ 0.00	release through [redacted] total box office £2022.24 but no payments to producers yet				£ 2,500.00		of a total net bo
Rest of Europe	£ 0.00	release through [redacted] parallel 40, €5607.41 income but €10.183.98 expenses so no profit to share				£ 1,868.00		based on WG fi
North America	£ 672.92	release through [redacted] er, 50% of \$2136.25				£ 2,500.00		target at same :
Rest of the world	£ 0.00	N/A				£ 0.00		
Total	£ 672.92			N/A		£ 0.00	£ 6,868.00	
Non-theatrical (festival, community, and educational screenings)								
UK	£ 0.00				got non-exclusiv	£ 2,200.00		22 screenings
Rest of Europe	£ 0.00					£ 3,000.00		30 screenings
North America	£ 0.00					£ 1,500.00		15 screenings
Rest of the world	£ 0.00					£ 2,000.00		20 screenings
Festivals	£ 0.00	€2510.75 but no producer's share after distributor	£ 500.00			£ 2,000.00		as with EOD
Total	£ 0.00		£ 0.00	£ 500.00		£ 0.00	£ 10,700.00	
TV Sales								
UK		Co-pro [redacted] see INPUTS	£ 0.00		TV rights not cle	£ 12,000.00		
Rest of Europe		Presale [redacted] E, co-pro VPRO see INPUTS	£ 0.00			£ 27,000.00		
North America		Presale [redacted] see INPUTS	£ 0.00			£ 15,000.00		
Rest of the world	£ 0.00	Estonia € 720 but no producer's share after deduc	£ 0.00			£ 0.00		
Total	£ 0.00		£ 0.00	£ 0.00		£ 0.00	£ 54,000.00	
DVD								
UK	£ 0.00	sold via Amazon by [redacted] 20	£ 13.46	£ 200.00	Source doc:	£ 2,380.00		340 units @ £7
Rest of Europe			£ 20.01	£ 104.00	SCR income	£ 1,778.34		proportionate to
North America	£ 2,583.50	50% of \$8201.60	£ 16.05	£ 200.00	(prior to split	£ 2,380.00		340 units
Rest of the world				£ 100.00	between	£ 350.00		50 units
Educational	£ 382.41	50% of \$1214.00		£ 3,616.00	producer and	£ 0.00		
Total	£ 2,965.91		£ 49.52	£ 4,220.00		£ 0.00	£ 6,888.34	

⁸ Virtuous Circle Project Update August 2012

Digital Engagement Metrics: the construction of a market device in the UK Film Industry

Status	Distribution Completed		In active distribution, never intended for TV			First festivals, distribution negotiations		
SDI Role	Housed Production (only in-kind support)		Distributor (online and DVD, non-theatrical)			Co-Producer and Self- or Joint Distributor		
	actual	remarks	to date	target	assumptions	to date	target	assumptions
Digital delivery								
SVOD North America	£ 1,580.20	50% of \$5016.52 (N/A)		£ 0.00	N/A		£ 121.38	238 units @ £0.4
SVOD UK	£ 0.00	N/A via N/A, but no payments yet		£ 0.00	N/A		£ 121.38	238 units @ £0.4
TVOD North America	£ 0.00		£ 34.61	£ 200.00	Source doc:		£ 466.48	238 units @ £1.9
TVOD UK	£ 0.00	N/A via N/A but no paym	£ 8.41	£ 200.00	N/A income		£ 466.48	238 units @ £1.9
TVOD rest of Europe	£ 0.00		£ 13.33	£ 75.00	(prior to split		£ 348.55	proportionate to
TVOD rest of World	£ 0.00		£ 6.16	£ 50.00	between		£ 68.60	35 units @ £1.9
Download-to-own	£ 0.00	N/A	£ 0.00	£ 0.00	producer and		£ 0.00	excluded, would
Educational DTO	£ 0.00	N/A	£ 398.33	£ 2,568.40	distributor)		£ 0.00	no plans yet
Total	£ 1,580.20		£ 460.84	£ 3,093.40		£ 0.00	£ 1,592.87	
Additional activities								
Workshops, speaking fees							£ 10,000.00	See note 11
Q&A via Skype							£ 1,000.00	
Total	£ 0.00	N/A			N/A	£ 0.00	£ 11,000.00	
Merchandise								
T-Shirts							£ 1,333.00	
Book							£ 1,166.00	
E-Book							£ 416.00	
Posters							£ 833.00	
Total	£ 0.00	N/A			N/A	£ 0.00	£ 3,748.00	
Donations								
Crowdfunding						£ 31.50	£ 5,000.00	Kickstarter for di
PayPal donations						£ 403.94	£ 0.00	Source: future4s
Donations for P2P							£ 4,000.00	VODO
Total	£ 0.00	N/A			N/A	£ 435.44	£ 9,000.00	
TOTAL OUTPUTS	£ 5,219.03		£ 76.55	£ 1,806.70	plus £1,700	£ 435.44	£ 103,797.21	
for producers (still					from SDI's			
TOTAL OUTPUTS	N/A		£ 433.81	£ 6,006.70	85% up to			
for SDI as					£6,000, 50%			
distributor					thereafter			

The total returns for SDI as a producer and as a distributor are calculated at the bottom of part two of the spreadsheet. The amounts available to go back in at the top of the next column can be identified here and at the bottom of part three of the sheet. Part three of the master sheet collates the most important digital metrics that SDI links to the financial performance above. The results of digital audience engagement are set out and modelled for future films. Integration of digital and non-digital activity is encapsulated here. For example, the relative potential performance of DEMs such as Facebook interactions for particular projects lead to strategic negotiation positioning on deal terms for distribution plans. *Being David Millar* is about a famous cyclist banned for drug use. Due to high profile cases such as that of Lance Armstrong, the topic is popular across social networks. SDI therefore believe there is a valuable avenue for exploitation of the IP in digital distribution rights. So SDI plan to organise their contractual arrangements with distributors accordingly.

In this way the Master Sheet displays agency as an assemblage of data and of representations of actors (aggregated audiences, investors, sales agents, distributors), each of whom travel with their own motivations attached. The sheet then produces possibilities for each film: the combinations of actors' involvement, associated revenues and percentage positions, selected possibilities are enacted through the combination of the sheet and SDI as agents. The Master Sheet brings people around it to look at it, often on one computer screen, it forms the daily work of the Producer of Marketing and Distribution but also involves the Executive Producer and Project Manager, it is a focus of their market activity.

Digital Engagement Metrics: the construction of a market device in the UK Film Industry

Master Sheet Part 3

Status	Distribution Completed		In active distribution, never intended for TV			First festivals, distribution negotiations		
SDI Role	Housed Production (only in-kind support)		Distributor (online and DVD, non-theatrical)			Co-Producer and Self- or Joint Distributor		
	actual	remarks	to date	target	assumptions	to date	target	assumptions
AUDIENCE & FOLLOWING								
Audience								
Theatrical	2,268.	427 UK, 460 est. US, 1381 Spain			N/A	0.		
Non-theatrical		small festival audiences	600.	600.	estimate based	500.		
TV		numbers not available (or not at	0.	0	rights not cleared	0.		
DVD	1,492.	2 viewers per DVD, 540 US, 20	14.	400.	2 viewers per D	0.		
Digital delivery		unknown	37.	200.	1 viewer per str	0.		
Web exposure								
Unique visitors	14,056.	relatively high due to POV broad	3,176.		Player gets emt	7,292		
Trailer views	17,757.	between various YouTube uploa	3,580.	8676	YouTube + Distr	7,973		
Blogger outreach	0.	no activities in this field	55.		via Inkybee and	0		
Max Klout score	0.	not measured	32.			52		
Engagement								
Website signups	0.	no signup option	192.		No targets for	611		
Player signups	0.	no signup option	287.		this project but	247		
Offline signups	0.	not pursued	291.		actuals will	44		
Facebook Likes	528.	Facebook page only started after	1,911.		help set	1,107		
Max Talking about this	15.	since we started monitoring this	697.		targets for the	455		
Twitter followers	0.	No Twitter account during the re	307.		upcoming films	591		
Crowdfunders	0.		0.		N/A	20		
Screening & volunteer signups		unknown (occasional requests v	45.			39		
Bottom line variance								
Recoupment to produ	£ 0.00	To be filled out for all projects						
Amounts available for SDI to reinvest								
Profits to investors								
USD 1.00	£ 0.63							
EUR 1.00	£ 0.85							

Embedding DEMs in established tools

The Master Sheet also functions to develop SDI's negotiating strategy, by framing multiple types of information: revenues, recoupment shares, alongside DEMs and explicitly stipulating a connection between them, the sheet prompts SDI to rely upon these constructed relationships and ratios when conducting deals and managing their exposure to consumer demand uncertainty. For example, for one film the PMD notes: *"The position of the PMD and comprehensive outreach work put SDI into an excellent negotiating position with the rights owners, enabling a unique 85 per cent share of net income up to £X, falling back to 50 per cent once that sum has been reached"*. Outreach work, mediated by digital technology, presented through DEMs, led to the formation of a market attachment between SDI and the distributor. The multiple digital objects created by the PMD, containing all their networked connections and meanings, are socio-material assemblages (Zargar 2013) and as such make visible knowledge about the market (Heinzen et al 2013). This materially mediated knowledge was recognized as valuable by the distributor and thus the digital market device operated to configure the market in SDI's favour.

Engagement and valuation work runs through the VC project and is interwoven with the digital fabric of the market structure that the VC continually builds. Almost all market actions produce digital data that must be evaluated, arranged, presented in a format for other market actors to evaluate. DEMs become reified or concretised a market device as they are woven into other established market practices and considerations. This includes deal term negotiations and resulting contracts and also revenue monitoring and recoupment modelling management assessments. The first film to be distributed by SDI, *Stem Cell Revolutions* provided an opportunity to deliver a marketing and distribution campaign that explicitly links DEMs and market results. Using the Master Sheet and its detailed component data, SDI is able to manage and reflect upon its new business practices as a producer/distributor: *"Compared to THE EDGE OF DREAMING, the producers will earn more through a*

*far more limited set of rights, and following the early indications, it should generate a surplus for SDI as distributor”*⁹. In the ongoing market arrangements for VC films, metrics such as the conversion rate develop agency, prompt SDI to reflect on its engagement activity, consider creating new works and campaigns in order to respond to their performance.

The arrangement of rights allocations, revenues and planned activity along with the new digital engagement data in a centralised tool for constant monitoring and appraisal enables considerations that make DEMs part of the market organisation process. The practice has, embedded within it, the strategy and tools to enable audiences to be recycled between projects: *“In addition to this income (production/distribution fees), SDI has continuously been collecting audience data, including contact and location information for almost every person who saw or bought the film. This data will then inform the targets for upcoming projects, with the aim to identify relations between views, engagement, and sales. The PMD works to lead a share of the STEM CELL REVOLUTIONS audience to upcoming films, in particular those involving science or health issues such as I AM BREATHING”*¹⁰. This quote highlights the fact that the construction of relationships between digital devices and economic results is an emerging process, one facilitated by the constant arrangement and rearrangement of digital material in evaluative frameworks.

DEMs as currency

Generating early interest (email signups, Twitter followers), i.e. in advance of actually selling the final product is viewed as a key route to success. The method of action – social media promotion, resulting and related data: ‘likes’ and then sales, are mutually adjusted and articulated within material calculative frames. Their collation and presentation produces a very particular market form – e.g. new self-distribution practices. By aggregating, merging and manipulating social interaction data in a complex, structured system (Alamio 2013), a new type of materiality is created, one with its own agency as it stipulates connections between data types and extrapolates from these data to future likelihoods on and offline. In the case of Facebook Likes, the personalised connection between users and content (both digital objects and market actors) has become an abstract measure, commensurable as a commodity (Gerlitz and Helmond 2013). This assemblage is based on the assumption that the digitally captured sentiment of Liking is permanent, continuous and operational (convertible into sales) at any future time (Alamio 2013).

Analysing how many visits and visitors a film website has had, how long the visits lasted and from what source: geographically and digitally the visitors came from provides further useful data. These DEMs are measured over time and can be cross-referenced with offline marketing activities or events and compared to actual sales. Looking at the geographic source of interest in the film, SDI can make sure it is making the film available in all appropriate territories. The relative proportion of sales as well as engagement activity per territory (UK, US, Canada, New Zealand) can also inform where SDI spends its advertising budgets e.g. in a city where a live workshop based on the film is to take place. For example, Facebook adverts benefit from the extremely fine-grained focusing that is characteristic of digital media.

⁹ Virtuous Circle Project Update August 2012

¹⁰ Virtuous Circle Project Update August 2012

Electronic word of mouth is the currency identified by SDI to manage consumer demand uncertainty: *“Identify the most active word-spreaders among current followers through NationBuilder’s built-in ranking (“participation credits”), thank them individually, and ask them to do more”*¹¹. The collated metrics include evidence of capitalisation on outreach activities even before a film is ready to be bought. For instance the PMD: *“Collected contacts and screening requests constantly while the film hasn’t been officially released yet, leaving us in a more powerful starting position once the distribution agreements have been finalised. Signups through embedded player are even higher than regular signups through the website”*¹² These digitally mediated networks, presented in the form of DEMs are viewed as useful by SDI in enabling a two fold strategy of managing consumer demand uncertainty. One approach is summarised as: *“Bringing audiences to a distributor in order to get a better deal”*¹³ the other as: *“Turning audiences into distributors (deep engagement)”*¹⁴. Due to the fact audience engagement is facilitated very early for various market goals e.g. proof of demand in order to get distribution deals, SDI recognise this interest must be maintained or reawakened at key points such as times of funding or release: *“Re-activate followers and donors who supported the film at earlier stages (‘Future For Sale’). Negotiate better deals with potential distributors given the Virtuous Circle resources, PMD time, and our already-established ‘nation’ of followers”*¹⁵. The provision for potential audience members to digitally request future screenings is a case in point. The functionality provides both a digital trace to be revisited but also an explicit demonstration of demand that can be aggregated and used as currency.

These examples illustrate the point that the market organisation serviced by digital devices is dependent on the (inter and intra) relational networks of individuals, companies and technological objects and the affordances they give each other (Faraj and Azad 2012). Objects’ currency depends in their social positioning and the value attributed to them by other actors in the network, which is in part determined by the configuration of the network over time as well as the inherent functionality of the technical material (Faulkner and Runde 2013). Roles become stabilised by the maintenance of the relations, thus with multiple iterations of interactions between materials and individuals, as captured by DEMs, a particular way of organising market action becomes instantiated. Social media are one means by which the exchange of content can lead to action such as film purchase (Langlois, 2013), but an unconscious contemporaneous effect is that individuals also become entangled in a technical ranking and accounting process that also contributes greatly to the assemblage of the market for the given film.

From the beginning of the project there was a desire and expectation that digital engagement tools would become engrained in daily market operations: *“We want*

¹¹ The story so far from August 2011 to April 2012 A mid-point summary

¹² The story so far from August 2011 to April 2012 A mid-point summary

¹³ New documentary financing through audience engagement PowerPoint proposal
14.3.11

¹⁴ New documentary financing through audience engagement PowerPoint proposal
14.3.11

¹⁵ The story so far from August 2011 to April 2012 A mid-point summary

*these (digital) conversations to last and grow and to change the way we do things*¹⁶. This work is largely driven by the PMD *“to motivate this market’s engagement into actions, be it providing insight and feedback, micro-finance, micro pre-sales, promotion, organising a screening or sales”*¹⁷. The role of digital market devices is to a great degree bound up with the impact of these numbers as tools. A key element of the market arrangement process is the use of DEMs as boundary objects, coordinating market actors with different modes of operation through collaborative assessment processes in order to align them for sufficient time to enable economic transaction (Bruns 2013).

Attributing values to numbers can involve the generation of conceptual links between categories and the construction of anticipated future results of operations by other market actors in relation to the figures and their networks of connections. The framing can involve the abstraction of certain metrics into functional currencies (Alaimo 2013) disentangled from their original context and reframed to enable coordination and communication in an entirely different network e.g. the reframing and use of Likes from within Facebook friend and content networks, into the temporary organisation of companies that constitutes the market assemblage for a documentary film. In other situations DEMs are not so abstracted, rather they have causal relations that are retained e.g. digital requests to host screenings, or linking trailer views to VOD sales. There are also a third kind of calculative practices somewhere in between these two processes where a greater degree of conceptual construction is required than the simple association of demand and screening sign ups, but without the level of abstraction applied to social media interactions, for instance linking geo-specific marketing expenditure, engagement metrics to sales.

The work of DEMs in constructing film financing and rights sales in some cases involves qualitative value judgements, especially in the development and allocation of categories and comparisons between data, data categories and different films. Social media attributes play a role in connecting users to preferences, the selection and sorting mechanisms that suggest specific behavioral routes (Bucher 2012) are continued in this case by SDI’s operation of a CRM system. The Virtuous Circle half-way report states: *“Through the use of ‘political capital’ which we have rebranded as ‘participation credits’, NationBuilder makes it easy for us to identify our strongest existing supporters, contact them individually, and encourage them to take further action.”* The report places high value on the nature of the dataset, both the total information contained and how that information is structured for use: the data set is *“Constantly tagged, categorised, cleaned, and de-duped.... Already identified more than 5,000 supporters (no duplicates) whereas SDI used to work with a mailing list of just 1,600 addresses. Differentiating between supporters (followers, subscribers, funders) and volunteers (people who offered to host screenings or help with fundraising)”*¹⁸. The tagging process adds metadata to each point of information to allow for searching, sorting and analysis and further framing. This information is then leveraged to generate ticket sales, screening support, and aggregated and repackaged in pitch negotiations to generate IP rights sales to market actors. Market assembly work is predicated both on the human assumptions that SDI use to code digital

¹⁶ Micro Major SDI Investment Proposal 25.2.11

¹⁷ Micro Major SDI Investment Proposal 25.2.11

¹⁸ The story so far from August 2011 to April 2012 A mid-point summary

behaviours that then perform the “functionalities of the system” and the affordances of digital technology which put this meaningful ordering of information into action (Alaimo 2013, 7).

Conclusions

I conceptualise the assemblage of millions of digital objects - social media networks, the assets they carry, meanings made and connections facilitated - as a coherent device on the basis of their shared digital characteristics, intent and functionality (Faulkner and Runde 2013). DEMs, the term I have coined for speaking about these digital tools in their active state, is an artificial lens to comprehend the particular configuration of technology and human elements. The evidence that I have gathered via participant observation of SDI's work, SDI meetings, emails and discussion of work, digital resources, and iterations of static documents and other data sources, point toward the value and validity of DEMs as a concept. It is through the theoretical underwriting of market device by the notion of market agencement as a “methodological term” (Caliskan and Callon 2010, 8) that new insight to the management of this particular creative industry is gained. Attention to the roles of materiality, agency, networks and performance are necessary to understand DEMs, not just an appreciation of their technical capacity alone.

DEMs perform a number of deeply interconnected tasks that contribute to the construction and organisation of the market for multiple documentary films. The core premise of the VC project is that SDI's use of digital tools can engage audiences to a greater degree than the historical mode of operation. This digital engagement can also enrol market actors such as investors, distributors, sales agents and TV broadcasters. The benefits of such engagement for SDI are increased viewers, fan interaction, direct revenues from sales to audiences, and new or improved deals with the other aforementioned market actors. The particular configurations of the market agencement for each film differ. However, market actors, such as SDI or investors, frame the construction of the market by digital market devices in terms of ‘managing uncertainty’ both implicitly and explicitly. Framing is done with reference to the previously established construct of the FVC. The complex processes by which these arrangements and effects come into being emerge over an extended period of time and may be characterised as constructed, networked, material and evaluative. These interacting elements constitute “the conditions of possibility of economic action” (Hardie and Mackenzie, 2007, 75). Of course the empirical reality is a messy process, with themes of agency and performativity also of great importance. However, insight is gained by isolating and representing the elements of market configurations deemed to have most explanatory power (Langly 2013.)

SDI construct their organisational action based on the particular communicative and interactive affordances of digital objects and their bearers: understanding DEMs is key to understanding this creative industry organisational change. The diffusion of digital objects across massive digital social networks is captured in quantified metrics. Presentations of these metrics in various material forms enable the framings of calculations concerning the value of films and thereby engender economic transactions across networks of market actors. Future work could explore the role of DEMs in narrative fiction films, compare the role of DEMs in marketization of documentaries and fiction films and draw insight from contrasting DEMs as market devices with other established devices in the industry.

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