



SOUTH AFRICAN CULTURAL OBSERVATORY

**The Overlaps Between The Digital
And Creative Sectors: Innovation And
Technology In The Creative Economy**

Submitted to:

Department of Arts and Culture

Submitted by:

Nelson Mandela University

In Partnership with:

Rhodes University, University of Fort Hare and University of KwaZulu-Natal

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South African Cultural Observatory

**The Overlaps Between The Digital And
Creative Sectors: Innovation And
Technology In The Creative Economy**

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Submitted to the Department of Arts and Culture:



Executive Summary

This research examines the nexus between digital technologies, innovation, intellectual property, and diversity in the cultural and creative industries (CCIs). It is part of an international collaboration between SACO and researchers at Coventry and Newcastle Universities.

Despite the growing interest in the contribution of CCIs to growth and job creation in South Africa, innovation is still mostly focused on STEM (science, technology, engineering and mathematics) sectors, with little existing research on how digital technology has influenced innovation, particularly in the increasingly evident overlaps between the digital and creative sectors, and how such firms create, use and protect their intellectual property.

A pilot study of CCIs operating in the Cape Town metropolitan area cluster in South Africa was conducted. The research design was based partly on a similar study conducted in the UK in the Brighton cluster (Sapsed and Nightingale, 2013), which enabled interesting international comparisons.

The results of the study show strong evidence of a cluster of CCI firms in Cape Town that are “fused”, that is, they combine digital technology with creative inputs to produce goods and services. They are also an interdisciplinary cluster, with high levels of innovation in business processes, goods and services. More than a third of firms are start-ups, that is, they have been founded in the past 5 years.

While most firms are small (median number of employees was 4, and 23% were owner operated with no employees), they have the ability to draw on a wide range of external skills around specific projects (median of 5 freelancers employed per firm in the previous financial year). This business model allows them to be agile and productive in the volatile, project-based world of the CCIs.

Although fused firms in the Cape Town cluster are not yet showing the superior growth performance found in the UK, results suggest that the Draft Science, Technology and Innovation policy of South Africa, currently very heavily biased towards STEM sector firms, could profitably include the CCIs. This is particularly the case for sectors like the Design and Creative Services and Audio-Visual and Interactive Media domains, which are most likely to use innovative technologies and contribute the largest share of the creative economy’s part of GDP. Similarly, the current South African White Paper on Arts and Culture could pay more attention to a broadened definition of “innovation” and offering support to firms combining digital technology and creative inputs. A suggestion is that the current Arts and Culture Venture Capital Fund be used to finance digital innovations and to offer support in registering innovations so that IP can be more effectively protected and capitalised on.

Although the ownership and employment demographics of firms in the Cape Town cluster were not representative of the population, fused firms were more likely to be inclusive and diverse, both in terms of ownership and employees, than unfused firms. Support for these kind of firms would thus also further the social justice and transformation agenda.

Key Findings

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- A cluster of 349 CCI firms in the Cape Town metro area were located and mapped.
- 74 responses were received via telephone interviews and an online survey.
- The largest domains in the Cape Town cluster were Design (49%), Visual Arts & Crafts (20%), AV & Interactive Media (18%).
- 57% of firms were founded in last 10 years; 36% in last 5 years.
- 23% were owner operated, the median number of permanent employees was 4, with 5 freelancers hired in the last year.
- 40% said that combining “ideas from creative arts” and “technology” was “very important” for their business; and a further 22% said it was “important”.
- Fused firms were more likely to have engaged in innovation (89%) in the last year than unfused firms (67%).
- Firms used combinations of business models: 57% used 3 or more.
- 79% said Cape Town was an important source of clients, 40% exported to other African markets.
- Despite high levels of innovation, only a minority used formal IP protection, or earned revenue from IP.
- Employee skills included STEM (20%), Arts & Hum. (42%), Business management (32%) and Design (57%).

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Research Team

The research presented in this report is part of an international collaboration entitled *The Roles of IP and Diversity in the creative industries: Networking South Africa and the UK* that was funded by the Arts and Humanities Research Council (UK). SACO provided research support, including database construction and GIS mapping, as well as contextual expertise. SADC Research (Cape Town) conducted the interviews and online survey.

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1 Introduction: Aims and Objectives

In their recent book on intellectual property and the creative industries, Brown and Waelde (2018) point out that, “The Creative Industries are in a time of change, both internally (notably in terms of stakeholder relationships, business models and attitudes to control and reward) and externally (from law, policymaking, economics, technological opportunity, social diversity and attitude)”. This is particularly the case in African countries, where new digital technologies provide both unprecedented opportunities for innovation and growth, as well as threats related to the insufficient protection of intellectual property (Nwauche, 2018).

This research examines the nexus between digital technologies, innovation, intellectual property, and diversity in the cultural and creative industries (CCIs). It is part of an international collaboration entitled “The Roles of IP and Diversity in the creative industries: Networking South Africa and the UK” that was funded by the Arts and Humanities Research Council (UK), and supported by the South African Cultural Observatory.

Despite the growing interest in the contribution of CCIs to growth and job creation in South Africa, innovation is still mostly focused on STEM (science, technology, engineering and mathematics) sectors, with little existing research on how digital technology has influenced innovation, particularly in the increasingly evident overlaps between the digital and creative sectors, and how such firms create, use and protect their IP.

To fill this gap, the “IP and Diversity” group conducted a pilot study of CCIs operating in the Cape Town metropolitan area cluster in South Africa in November 2019. The research design was based partly on a similar study conducted in the UK in the Brighton cluster (Sapsed and Nightingale, 2013), which enabled interesting international comparisons.

The report includes:

- A literature review of previous research and theory on the relationships between the creative economy and innovation, with a focus on the role of digital technologies, geographical clusters, intellectual property rights and diversity;
- A summary of existing research on innovation and transformation in the creative economy of South Africa, including an overview of recent relevant policy changes;
- A description of the research methods and context;
- An analysis of the findings of the pilot study, in comparison to the “Brighton Fuse” survey on which it is based;
- A consideration of the implications of the findings for future research and policy.

2 Literature Review: The creative economy and innovation

2.1 Digital technologies and innovation in the CCIs

In the introduction to a special edition of *Technological Forecasting and Social Change*, Mangematin et al. (2014) note that the impacts of digitisation on the creative industries can be seen as an important testing ground for its impact in other industries:

“Previously thought of as frivolous and an expensive luxury, the creative industries are now considered an industrial priority and a ‘laboratory’ for studying the transformation of modern economies and societies. Accordingly, the changes they are currently undergoing through digital technology are becoming increasingly urgent in broader debates on cultural production, entrepreneurial activity and the nature of creativity” (Mangematin et al. 2014:1).

Schumpeter, writing in the 1930’s, developed his theory of the “long waves of innovation”, which showed how new technologies can drive innovation and value creation in economies through the

process of “creative destruction”, in which old products and business models are replaced with new ones. Jaaniste (2009) explores ways in which the creative sector (including both commercial and non-profit sectors) can fit into an overall framework of innovation (Figure 1).

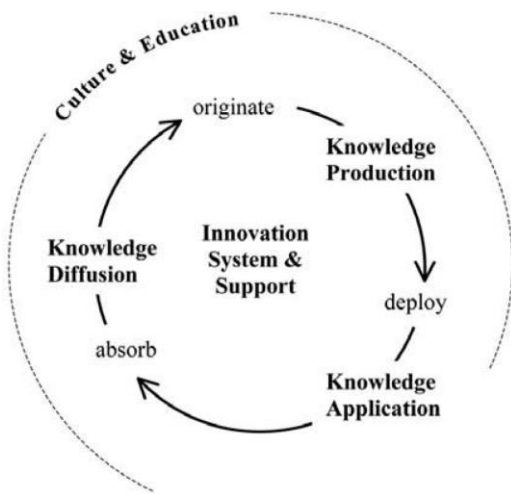


Figure 1: The Framework of Innovation

(Source: Jaaniste, 2009: 217)

In this model, innovation has three distinct phases: Knowledge production; Knowledge application; and Knowledge diffusion. The context in which innovation occurs is also important – a “culture of innovation” encourages risk taking, experimentation, and rewards effort, while education provides the necessary human capital and research capacity. Jaaniste (2009) notes the dominance of the STEM (science, technology, engineering and mathematics) sector in most National Systems of Innovation (NSIs) and related innovation policies (a bias also evident in South Africa, as discussed below). The STEM bias places the cultural and creative sector outside of the innovation cycle, mostly connected with providing the cultural backdrop in which innovation occurs and/or as a component of a broad education which enables innovation in the STEM sector.

Yet Jaaniste (2009) and others, argue that a broader understanding of innovation is needed, and that the CCIs can contribute directly to innovation (that is, be an integral part of the innovation cycle) in a number of ways, such as:

- Taking STEM applications to markets through marketing, design and digital content;
- Contributing to experimental research and R&D in creative sector production, which may include collaboration with STEM researchers;
- Producing and distributing innovation throughout creative firms for commercialisation;
- Contributing to social innovation and utilisation through helping to solve environmental and social policy issues;
- Archiving and diffusing knowledge and innovations through cultural collection agencies, like museums and archives;
- Functioning as micro- and sector-based innovation systems in their own right, especially in the “digital content innovation system” which links together creative firms, agencies, customers, assets (technology and IP, skills, finance and infrastructure) and regulatory regimes.

(Adapted from Jaaniste, 2009:222-3).

Galindo-Martin et al. (2019) identify a number of ways in which the digital environment can drive entrepreneurship, resulting in “digital dividends” for both firms and societies that embrace the online environment.

Table 1: The benefits of digital entrepreneurship for firms and societies

Digital Dividends for Firms	Digital Dividends for Societies
-Access to new markets	-Job creation and improved social climate
-Facilitation of labour market information and new jobs	-Better quality goods and services at lower prices.
-Increased worker productivity and lower production costs	-Better access to public services
-Economies of scale	-Governments achieve economic growth and employment improvements, leading to improved well-being.

(Source: Adapted from Galindo-Martin et al. 2019)

Galindo-Martin et al. (2019) tested their theories on a sample of 29 European countries and found that entrepreneurial innovations in the digital environment did result in higher value added, stimulating competition, leading to further (ongoing) innovation, and faster economic growth – what they describe as “a virtuous economics circle). However, they do acknowledge the risks associated with digital innovation and entrepreneurship, such as the development of monopolistic or oligopolistic structures that could stifle the gains from competition.

Indeed, Mangematin et al. (2014), like Schumpeter, see the impact of digital entrepreneurship as having both “creative” and “destructive”, or disruptive elements, that fundamentally reconfigure value chains in the industry. For example, digital technologies affect the creative process in that they offer the opportunity for “users” or “consumers” to be much more active participants in the production process. Digital technologies also offer a multitude of ways to distribute and sell creative content that can be differentiated depending on the market segment, or even the individual.

Mangematin et al. (2014) provide a useful framework to explain the factors that affect the rate of adoption of new technologies at three levels:

- Macrolevel of institutional logics
- Mesolevel of business models
- Microlevel of creative processes.

Institutional logics refer to the ways in which particular sectors of the creative industry have traditionally operated – their organisations, value chains and power dynamics. New technologies provide an opportunity for such arrangements to be reconfigured, but may be constrained by the “dominant business logic” of the sector (sometimes referred to as path dependency). A new technology can be “a useful trigger for delegitimizing existing institutional arrangements and development of competing intuitional projects” (Mangematin et al. 2014:4). However, depending on the strength of institutions related to the old way of doing things, change may be slow and contested, since existing players will have strong motivations to defend the old business models and ideologies.

Li (2019) compared two groups of firms in the creative industries: those who were identified as using innovative business practices related to digital technologies; and those selected randomly from different CCI sectors. Li identifies three ways in which technology can change business models – through *automation* of existing activities and processes; *extension* of current ways of conducting business; and *transformation* of current business practices that replace traditional ones.

Findings showed that 90% of CCI innovators used digital technologies to transform their relationships with customers through, for example, offering personalised products and services, and different prices for different levels of exclusivity, which changed revenue models. Many were also able to provide specific services to target markets through market segmentation. 87% increased revenue through association with other firms (for example, groups of artists) and brand extension, which enabled them to increase their customer base and to enhance their credibility through such associations (Li, 2019).

The general sample of CCIs was more likely to use digital technologies to automate (rather than transform) their business models. 74% of firms in the general sample maintained their traditional revenue models (compared to only 17% of innovators) and many relied on public funding sources. 36% of the general sample used digital technologies to extend their current market segments (Li, 2019). Li (2019) concludes that digital technologies can lead to a variety of new business models, and that a new way of doing things may not replace completely a traditional model – what s/he refers to as the adoption of “portfolio business models”.

Bakhshi and Throsby (2012) provide some examples of how non-profit cultural institutions can make use of digital technologies to enhance their traditional business models. Their work considers the experiences of audiences at live theatre productions and art exhibitions compared to audiences experiencing the same works either live-streamed to cinemas, in the case of the theatre production, or via an online virtual tour, for the art exhibition. A comparison of audience demographics showed that the in-cinema live-stream and online art tours attracted audiences from a greater proportion of people from lower income groups, thus potentially enabling audience diversification and greater access. The research also considered the experiences of live versus online or live-stream audiences, and found that, for the live-stream cinema audiences, the quality of their experience was as good, if not better than audiences attending the live event. For the art exhibition, interaction with the authentic object still seems to be an important part of determining the quality of the experience.

In terms of cultural policy relating to non-profit cultural institutions, Bakhshi and Throsby (2012) argue that the opportunities and risks associated with new digital technologies also require arts funders to adapt their models. Experimenting with the ways in which digital technologies can enhance and transform the cultural sector is risky, and public funders (like private funders of R&D) may have to accept that not all innovations will be successful, but that such experimentation is crucial to the long-term sustainability of the CCIs. However, they also note that:

“For cultural institutions, new technologies open up possibilities for more effective pursuit of organisational goals. To the extent that the objectives of arts funding bodies are congruent with those of cultural intuitions – expanded audience reach, continued development of the art form, the creation of public value and novel business models – there is scope for co-opting innovation in the policy agenda” (Bakhshi and Throsby, 2012:219).

At the microlevel of the creative process, Sapsed and Tschang (2014:134) argue that digital technologies have particular ramifications for the ways in which creative work is produced because of:

1. Their self-expanding processing and communicating capacity in terms of their volume, complexity and speed;
2. Their ability to recombine on the basis of digitization and current communication;
3. Their distribution work flexibly through interactive, digitised networking”.

Taking the example of the development of online games, Sapsed and Tschang (2014) demonstrate how software tools change the production process by allowing artists to experiment and include multiple iterations at any stage of the process, rather than these activities being confined to developmental stages. The sequencing of the production process becomes much more fluid, “enabling ideas to be [constantly] realized, tested and revised” (Sapsed and Tschang, 2014:139).

Innovation and Clustering

Innovation may also be one of the reasons that the CCIs have been observed to “cluster” together in certain geographic locations (as has also been observed in South Africa). Gong and Hassink (2017) identify three main reasons for CCI clustering (Figure 2): agglomeration economies, spinoff formation,

and the institutional environment. Agglomeration economies are when firms of a particular kind locate in a place because of factors like specialised suppliers on inputs, markets (buyers), specialised labour and local knowledge spillovers (networking and sharing of ideas and resources between CCI firms). For the CCIs, clusters often occur in big cities because of the markets and amenities they can provide.

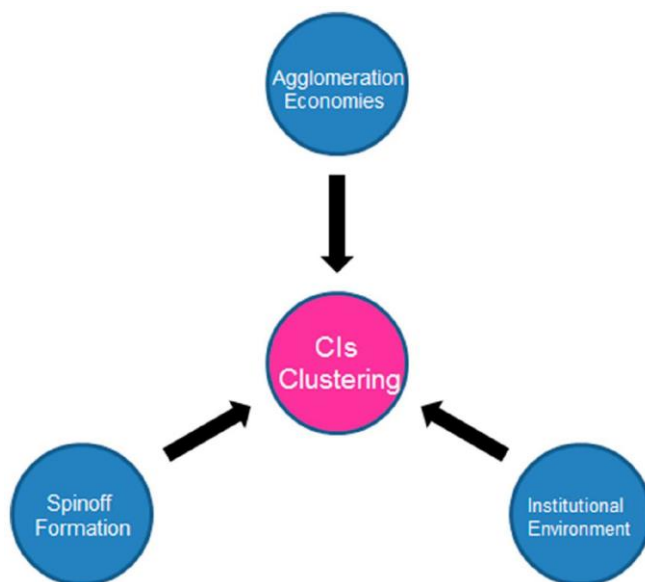


Figure 2: Main drivers of CCI clustering

(Source: Gong and Hassink, 2017:584)

There are a number of reasons why the CCIs tend to cluster in cities, and why such locations can be important, especially for small and medium sized CCI start-ups. As listed by Gong and Hassink (2017:588):

- Cities provide amenities (hard and soft infrastructure) – “quality of place” rather than “access to place” has become most important in developing and maintaining a competitive advantage;
- Face-to-face interactions between “critical mass” of entrepreneurs, intellectuals, artists, managers, students etc. found in cities facilitates the flow of ideas and innovations;
- Cities provide “a nexus of buildings and institutions”, including ICT, housing and recreational amenities that are attractive to the “creative class”;
- Cities offer larger local markets and opportunities for user community interactions.

Gong and Hassink (2017) suggest two further reasons for CCI clustering in cities:

- “Spin off” companies (smaller, independent firms founded by people previously associated with larger organisations found in cities, such as large corporations or universities), are more likely to stay in the same location as the “parent” company;
- Formal and informal institutions, such as creative intermediaries, networks and industry organisations are more likely to be found in cities, and can provide important competitive advantages for CCIs.

As further discussed below, the Cape Town metropolitan area, although not the economic hub of the country in terms of overall production (which is based in Johannesburg and Pretoria in the “Gauteng

city province”), can still provide many of the benefits associated with agglomeration economies for CCIIs.

Innovation and Diversity

Inclusion and diversity in the CCIIs in South Africa is a matter of social justice and transformation, but some research suggests that firms that can draw on Heterogeneous Sources of Knowledge (HSK) are better innovators and, as a result, more competitive. Santoro et al (2019) conducted a survey of 189 Italian companies in the manufacturing and services industries, and found that firms with higher levels of HSK enable them to benefit more from formal and informal collaborations around innovations (since they have a higher absorptive capacity for new ideas), and can thus be considered “a relevant catalyst for firms’ performance”. Interestingly, their findings also show that, for non-cultural firms, Informal Collaboration Modes (ICMs) are more beneficial for firms’ innovation and performance than Formal Collaboration Modes (FCMs):

“ICMs offer greater benefits than FCMs, providing firms with a quick and flexible way to benefit from knowledge coming from CCIIs to improve their innovation performance” (Santoro et al. 2019).

The CCIIs in many countries, including South Africa, have been found to be mostly small, medium and micro enterprises (SMMEs), who collaborate with temporary or freelance workers around specific projects. Indeed, the short-term, project based nature of much CCI work has been found by some researchers to constrain diversity and inclusion in the industry (Oakley, 2013; Eikhof and Warhurst, 2013; Siebert and Wilson, 2013; O’Brien et al., 2016; Hennekam and Bennett, 2017). This is at least partly because so much of the work is freelance, short-term and temporary, which makes for quite a precarious work environment, where workers, especially those starting out in the industry, will experience periods of unemployment. Especially for people from working class backgrounds, who may not be able to afford being unemployed, and women (who are often the primary family caregivers), long hours, travel and erratic working conditions are difficult to accommodate.

Many studies have found that there is an underrepresentation of “...women in key cultural sectors such as film, TV, radio, photography, IT and architecture” (Creative Skillset, 2014 in Oakley et al, 2017). Indeed, Conor et al. (2015) find that fields such as film, television and music are characterised by high and worsening gender, race, class, age and disability inequalities. The authors conclude that, without intervention, employment in the CCIIs has not resulted in less inequality, particularly in term of gender-based employment. The lack of a diverse and inclusive CCI workforce may have several negative consequences related not only to a lack of social justice, or to the kinds of products and services that are produced, but also to the ability of CCIIs to innovate and generate their own IP.

Innovation and Intellectual Property

Nwauche (2018) points out that, for the cultural and creative industries to contribute to economic growth and development, IP protection is essential. However, it is currently only at a very basic level in Africa: “At this level, rights owners are subverted by free riders who diminish their market share for certain reasons” (Nwauche, 2018:86). In many African countries, however, IP and copyright is not well enforced, and levels of counterfeiting and piracy are high, which diminishes the contribution of the CCIIs to economic growth and job creation. From a supply side, the sustainability of the CCIIs, even large and successful industries, like the Nigerian film industry (Nollywood), depend on the effective enforcement of IP.

In relation to the development of digital platforms, Nwauche (2018) identifies them as both “a unique source of creative potential for Africa”, as well as a threat if digital content is not well protected, while still allowing access to cultural resources. Similarly, De Beukelaer and Fredriksson (2019) argue that, in terms of international IP regulation, there needs to be balance between rights to protection of IP that lead to remuneration, and the cultural rights of people to participate in cultural life: “We do not

argue against copyright protection per se, but stress the need to balance the economic right of exploitation with the right of access to culture” (De Beukelaer and Fredriksson, 2019:461). Their point is that, although many African countries are subject to international copyright law, their colonial history has resulted in these states having had very limited input into developing the legislation. As noted by Nwauche (2018), recent changes to the copyright laws in some African countries (South Africa, Malawi and Nigeria) seek to balance access with protection.

Schlesinger and Waelde (2012) also point out the potential importance of copyright in the creative industries in the UK, not only in terms of protecting their contribution to growth and export earnings, but also in terms of the work conditions of creators. As discussed further below in relation to the South African context, cultural work is often “precarious”, and people working in the sector take on multiple jobs, trading off “artistic considerations against their need to make a living”. In their study of cultural work in music and dance in the UK, Schlesinger and Waelde (2012) find that most practitioners are not motivated by copyright legislation, but rather by the “romantic” idea of creativity. Their findings suggest that, for most practitioners in music and dance, copyright legislation is irrelevant in terms of providing incentives for production, or earnings.

2.2 The Brighton Fuse Survey

This research report is part of an international collaboration entitled *The Roles of IP and Diversity in the creative industries: Networking South Africa and the UK*, which was funded by the Arts and Humanities Research Council (UK). An important goal of the research is to compare the way that the CCIs in a South African cluster use (or do not use) digital technologies in combination with their creative work, to the findings of the Brighton Fuse study. As shown in section 2.1, much research links innovation (and the development of intellectual property) and economic performance. However, almost all the current studies have been undertaken in the global north.

The Brighton Fuse project in the UK demonstrated how firms in the creative industries “connecting the arts, humanities and design with digital and ICT” could enhance their innovation levels and business performance (Sapsed and Nightingale, 2013). Some of the key questions were:

- How does creativity link to entrepreneurship and economic growth in the CCIs?
- What combination of skills, knowledge and networks is essential to thriving creative digital businesses?
- How and when should government intervene to promote the conditions required for clusters to generate extraordinary high growth?

The focus was also on how geographical location and clusters affect innovation and economic performance. The cluster chosen for study was “Silicone Beach” in the city of Brighton in the UK, which is located about 80km from the economic hub of London. Survey methods included an online questionnaire and telephone interviews which together elicited 500 responses from creative industry firms in the cluster.

The extent to which firms “fused” digital technologies and creativity was determined by their responses to the statement, “Your work combines ideas from creative arts and technology” on a 1 to 5 scale, where 1 meant “not important at all” and 5 meant “very important”. Findings showed that two-thirds of firms in the cluster were “fused” to some degree (responded with a 4 or 5 to the statement) and were growing faster than non-fused firms. Firms that were growing more quickly also tended to have a more interdisciplinary workforce: 48% of Brighton entrepreneurs were arts, design and humanities graduates (Sapsed and Nightingale, 2013).

In the analysis of the results of this South African pilot study, comparisons with the findings from the Brighton Fuse study will be made. In addition, the South African study also considers the role of diversity and inclusion (building on the Heterogeneous Sources of Knowledge theory) to evaluate the level of transformation in creative start-ups using digital technologies.

2.3 Innovation and Transformation in the CCI in South Africa

Twenty-five years after the advent of democracy in South Africa, a number of important policy documents are undergoing revision. At the same time, national interest in the CCIs and their role in the Fourth Industrial Revolution, is increasing. This section of the report briefly reviews two recently revised policy documents in terms of their position on innovation and transformation in the CCIs, followed by a brief summary of existing information on the size and location of the CCIs in South Africa.

2.3.1 The South African Policy Context

The South African Revised White Paper on Arts and Culture (DSAC, 2018) recognises the importance of the link between the CCIs and digital innovation, both in terms of potential spill-overs to other sectors of the economy, as well as for increasing productivity and innovation within the sector itself.

“It is now globally understood that innovation, creativity and problem-solving are the key strategic capacities for social and economic development. For this reason, the integration of the sector into national, social and economic policies is imperative” (DSAC, 2018:13).

The White Paper proposes the establishment of a National Cultural Skills Academy to promote enterprise development and technological innovation for the sector (DSAC, 2018). Technology and innovation are also recognised as having an important role to play in the transformation agenda of the policy, where transformation can be broadly defined as the inclusion and empowerment of more diverse and demographically representative people in the industry:

“The township and village economy entails the transformation of cultural knowledge into goods and services. In this respect, creating links between cultural knowledge – which includes science, technology and innovation – and cultural enterprises development is one of the most important challenges facing the township and village economy. Digital technologies enable great advantages to the cultural industries such as opening up of new markets, easier and more efficient distribution and direct communication with the consumers of goods and services” (DSAC, 2018:49).

However, the White Paper does recognise the challenges for the sector that new digital technologies pose, in terms of leaving some parts of the sector behind, and also in terms of intellectual property and copyright protection. To support innovation and digital transformation in the sector, the White Paper (2018: 52-3) proposes that the DSAC should:

- Provide grants for digitisation and innovation such as in the book, music, audio-visual and video games sectors;
- Support institutions experimenting, doing R&D, and facilitating networking in the field of digital entrepreneurship in the CCIs;
- Incentivise networks and cluster development, working with the private sector to secure access to finance, facilitation of creative business incubation, and provision of physical infrastructure;
- Work with local government and the private sector to guide the spill-over effects of the cultural and creative industries and bridge their products with the rest of society and the economy.

The South African Draft White Paper on Science, Technology and Innovation (STI) was released in 2018 (STI, 2018). The main aims of the new policy are to promote the use of science, technology and innovation in accelerating inclusive economic growth and development. Some of the proposed interventions around innovation include providing sector-specific innovation funding, and up-scaling support to smaller firms so that they can access equipment and support in commercialisation of new products and technologies. In general, the Draft White Paper on STI aims to broaden the understanding of innovation to include not only formal R&D, but also incremental innovations occurring in smaller firms and even in the informal economy. Nevertheless, the STI White Paper still has a significant STEM bias (as noted by Jaaniste (2009) in other contexts), and does not directly refer to the cultural sector or the cultural and creative industries.

In addition to aims related to the development of the country's national system of innovation, an important aim of the STI White Paper is to "Promote inclusivity and transformation", especially with regard to race and gender representation. In monitoring the performance of the policy interventions proposed, indicators of inclusivity and diversity will be used. Specific support, for example, around the use of intellectual property for publically funded research and development, will also be offered to under-represented groups:

"To support the transformation of the demographic ownership profile of technology-based firms (and in particular small, medium and micro enterprises) in South Africa, guidelines will be developed by the DST [Department of Science and Technology], in cooperation with relevant NSI [National System of Innovation] partners, to use intellectual property from publicly funded R&D under appropriate conditions to support women and black entrepreneurs when such intellectual property is commercialised" (STI, 2018:24).

Interestingly, neither the Draft White Paper on STI (2018) or the Revised White Paper on Arts and Culture (2018) pay much attention to the role of clusters. The STI White Paper briefly mentions that they will seek to support clustering and agglomeration economies in "key sectors", but no details are provided. The Revised White Paper on Arts and Culture (2018) mentions the development of cultural clusters as a way of enhancing the role of CCIs in urban development, but does not link such clusters to innovation or to enhancing the productivity and competitiveness of the CCIs themselves.

2.3.2 Mapping the CCIs in South Africa and the Research Context

This section is based on previous reports produced by the South African Cultural Observatory on the Cultural and Creative Industries in South Africa. It provides information on their contribution to GDP, as well as the size, demographic profile and location of people working in cultural occupations. Lastly, contextual information on the research area, the Cape Town metropole, is provided.

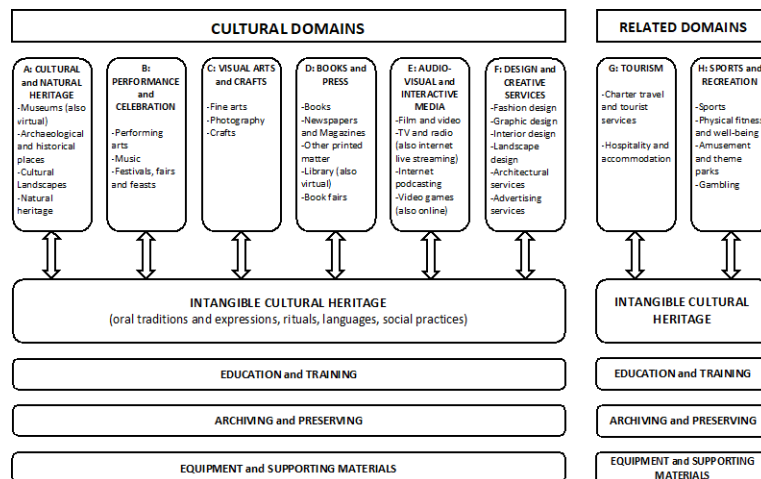


Figure 3: Defining the CCIs using the UNESCO Framework for Cultural Statistics

South Africa does not currently have an officially recognised definition of the cultural and creative industries. However, policy documents, and much research undertaken by the South African Cultural Observatory, make use of the UNESCO Framework for Cultural Statistics (FCS, 2009). In the FCS, UNESCO produced an internationally recognised definition of culture, as well as a breakdown of the cultural and creative industries into a set of cultural Domains.

According to UNESCO (2009: 9), “culture is the set of distinctive spiritual, material, intellectual and emotional features of society or a social group, that encompasses, not only art and literature, but lifestyles, ways of living together, value systems, traditions and beliefs.” The FCS is pragmatic in that it makes use of existing international classification systems such as the International Standard Classification of Occupations (for measuring cultural employment) and Standard Industrial Classification codes for industries (UNESCO, 2009: 9-18), which enables international comparison. The FCS domains include all the cultural activities, goods and services that are involved in the phases of the culture cycle model. For the purposes of this research, firms that are classified as part of Domains A to E are included.

The contribution of the CCIs to South Africa's GDP

In 2018, the South African Cultural Observatory produced a baseline mapping study of the cultural and creative industries (SACO, 2018). Findings showed that, in 2016, the GDP contribution of the CCIs was just over R62 billion, which represents approximately 1.7% of the total GDP in South Africa. However, the CCI growth rate of 4.9% (2011-2016) was considerably higher than the average growth rate for the whole economy (growth rate of 1.6% in the same period). Interestingly, the fastest growth rates (as well as the largest GDP contributions) were found in Domains E (Audio-Visual and Interactive Media) and F (Design and Creative Services). These are also domains that are more likely to be using digital technologies, which is part of what this research aims to explore.

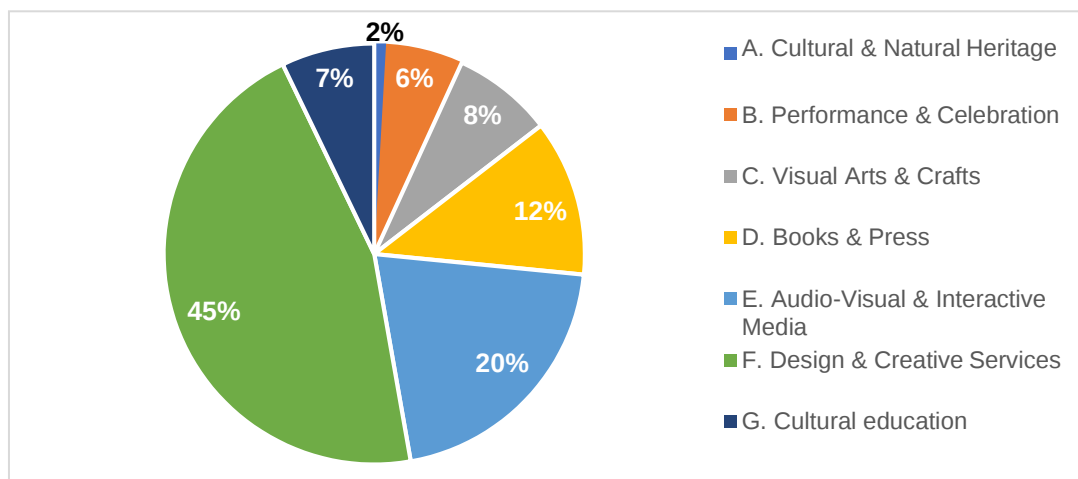


Figure 4: The contribution of cultural domains to South African GDP

CCI Employment and ownership patterns in South Africa

Using data from the Labour Market Dynamics household survey conducted by Statistics South Africa, Hadisi and Snowball (2019) showed that the creative economy in South Africa (including both cultural and non-cultural support jobs in the CCIs) provided employment for 6.94% of the working population in 2016.

While not yet representative of the population demographics, the majority of those in cultural occupations are black African (73.2%), coloured people (9.3%) and people of Indian/Asian origin (3.3%). Compared to non-cultural occupations, white people (who make up 11.6% of those in non-cultural occupations) are still over-represented in cultural occupations overall. However, there are significant differences between domains. For example, workers in the Visual Arts and Crafts domain are 94% black (including black African, coloured people, people of Indian/Asian origin). However, Design and Creative Services remains less transformed, with 33.4% of workers in this domain being white people.

Young people (under 35 years old) make up 35% of cultural employment, which equates to 379 000 jobs. Youth who work in the cultural sector are, however, more likely to be employed informally (47.2%) than youth working in non-cultural jobs (33.6%). A concerning finding is that there is a far lower percentage of young women cultural workers (29.2%) than young male cultural workers (38.4%).

In terms of Cultural Domains, the domain that offers most jobs in the cultural sector is Visual Arts and Crafts (44.3%), followed by those working in “Intangible Cultural Heritage” (23.3%) (that includes Traditional chiefs and heads of villages, Religious professionals, Traditional medicine practitioners, Faith healers and Religious associate professionals) then Design and Creative Services (12.8%) and Books, Information and Press (12.8%). Young people working in cultural occupations are most often found in the Visual Arts and Crafts domain (43.1%), but the next most popular is the Design and Creative Services sector (19.6%), which is one of the largest in terms of GDP contribution and growth rates (Hadisi and Snowball, 2019).

Table 2: CCI firm ownership patterns in South Africa

Domain	At least one SA owner	At least one BICA* owner	At least one female owner	At least one youth owner
Performance & Celebration	95%	65%	47%	45%
Visual Arts & Crafts	92%	63%	58%	27%
Information, Books & Press	89%	44%	41%	17%
Audio-Visual & Interactive Media	96%	53%	31%	40%
Design & Creative Services	93%	48%	50%	26%

* Black, Indian-origin, Coloured or Asian-origin (BICA) owner

(Source: Snowball et al., 2017:302)

An important determinant of transformation is not only the demographic profile of the workforce, but also patterns of ownership. Making use of interview data from a sample of 2500 South African CCIs, Snowball et al. (2017) show that, in terms of ownership, black people are still under-represented in the sector, especially in some domains, such as Information Books and Press and Design and Creative Services. Women are best represented as CCI owners in the Visual Arts and Crafts Domain (58%) and Design and Creative Services (50%), and most under-represented in Audio-Visual and Interactive Media (31%).

Research context: The CCIs in Cape Town

The City of Cape Town Metropolitan Municipality is South Africa's second largest metro (after Johannesburg) by population size. Cape Town is the legislative capital of South Africa, and the capital city of the Western Cape Province – the only province in South Africa governed by the opposition party (the Democratic Alliance). According to the most recently available census data provided by Statistics South Africa¹, it has a population of 3.7 million. Despite a relatively diverse economy, it has an unemployment rate of nearly 24%, which is nevertheless lower than the South African average. The most commonly spoken language is Afrikaans (35%), followed by Xhosa (29%) and English (28%). Compared to many other parts of South Africa, living conditions are good, with 78% of the population living in formal housing, and 94% having access to electricity for lighting.

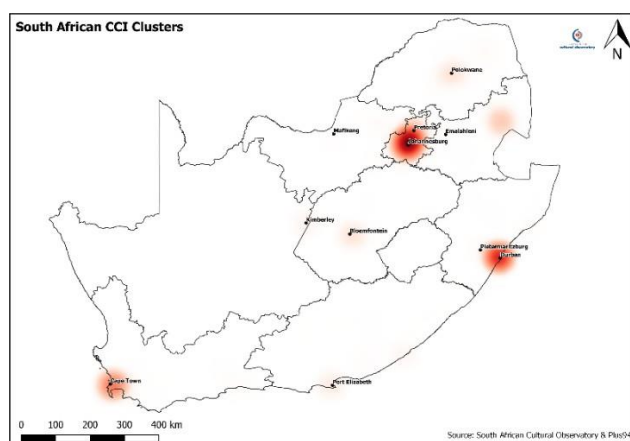


Figure 5: Locational concentrations of cultural and creative industries in South Africa

¹ Census 2011, Available: http://www.statssa.gov.za/?page_id=1021&id=city-of-cape-town-municipality

Cape Town is well known as a tourism destination for both local and international visitors, especially for its scenic beauty (Table Mountain and coastal environments and beaches) and for the wine industry in the near vicinity. According to a recent tourism report (Statistics South Africa, 2015²), 20% of international air travelers enter the country through the Cape Town International Airport, which amounts to more than half a million international visitors per year. The Western Cape government tourism organization (WESGRO, 2016³) estimated that total tourism numbers for the province in 2016 (including local and international visitors) were 3.7 million. In 2014, Cape Town was designated the World Design Capital by the International Council of Societies of Industrial Design, and is generally recognized as a city with a vibrant cultural and creative industry sector, especially in the film sector (Audio-Visual and Interactive Media domain). Making use of interview data from a previous study of CCIs in South Africa, a GIS heat map (Figure 5) can be used to show the location of creative clusters in South Africa. As demonstrated, Cape Town can be regarded as a creative cluster, along with Johannesburg and Durban.

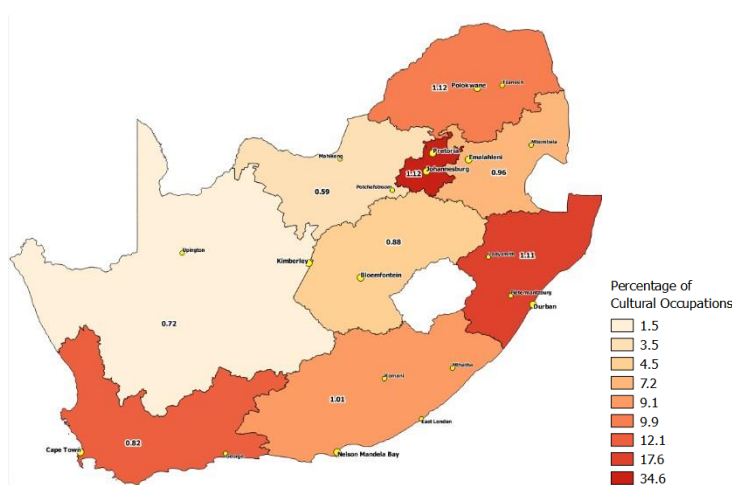


Figure 6: Cultural employment in South Africa by location

In a recent report on cultural occupations in South Africa, Hadisi and Snowball (2019) use location quotients to identifying locational concentrations or clusters within a region. Location quotients take into account the relative share of cultural employment in each province, given their share of overall employment. As illustrated, the Western Cape Province has 12.1% of cultural occupations in South Africa, the third highest proportion after Gauteng (34.6%) and KwaZulu-Natal (17.6%). The province overall does not have a location quotient of more than one for cultural occupations (0.82), probably because, outside of Cape Town, the region has no other large cities and has quite a high proportion of agricultural activity. Nevertheless, Cape Town is the second largest metropolitan area (3.7 million people) in South Africa, after Johannesburg (4.4 million), which could offer CCIs agglomeration benefits.

² Statistics South Africa, 2015. Tourism. Report No. 03, 51-02-2015
Available: <http://www.statssa.gov.za/publications/Report-03-51-02/Report-03-51-02-2015.pdf>

³ WESGRO, 2016. Available: https://www.westerncape.gov.za/assets/departments/economic-development-tourism/project_khulisa_mid-term_report_back_wesgro_presentation.pdf

3 Research methods

The research method was a quantitative survey of small, medium and micro cultural and creative industry enterprises based in the Cape Town metropolitan area. The research is part of an international collaboration entitled *The Roles of IP and Diversity in the creative industries: Networking South Africa and the UK*, that was funded by the Arts and Humanities Research Council (UK).

The research comprised 3 main phases:

- 1) Adaptation of the Brighton Fuse survey instrument;
- 2) Development of a database of CCI in the research area; and
- 3) Data collection and analysis.

Adaptation of the Brighton Fuse survey instrument

The Brighton Fuse project in the UK demonstrated how firms “connecting the arts, humanities and design with digital and ICT” could enhance their innovation levels and business performance (Sapsed and Nightingale, 2013). To our knowledge, this is the first research to explore overlaps between the use of creative inputs and digital technologies in the CCIs in South Africa.

The survey instrument used in the Brighton Fuse project was carefully adapted for the South African pilot study with input from researchers in both the UK and South Africa. On advice from SADC Research (the company that collected the data), the questionnaire was somewhat shortened in order to improve response rates.

The survey included sections on: Activities, Clients and Business Models; Talent and Skills; Innovation; and Barriers and Enablers. A section on the demographics of owners and employees was included in order to explore issues of transformation, diversity and inclusion in a South African context.

The research obtained ethical clearance from the Research Ethics Committees of Coventry University in the UK (Project Reference Number: P66294), which was reviewed and verified by the Rhodes University Ethical Standard Committee (South Africa) as well.

Development of a database of CCIs in the research area

SACO developed a database from publically available sources (existing SACO data on CCIs in the area, the online Yellow Pages and other social media platforms). the main information targeted was the organisation name and any contact information available. Additional information included any organisational information such as establishment year and number of employees.

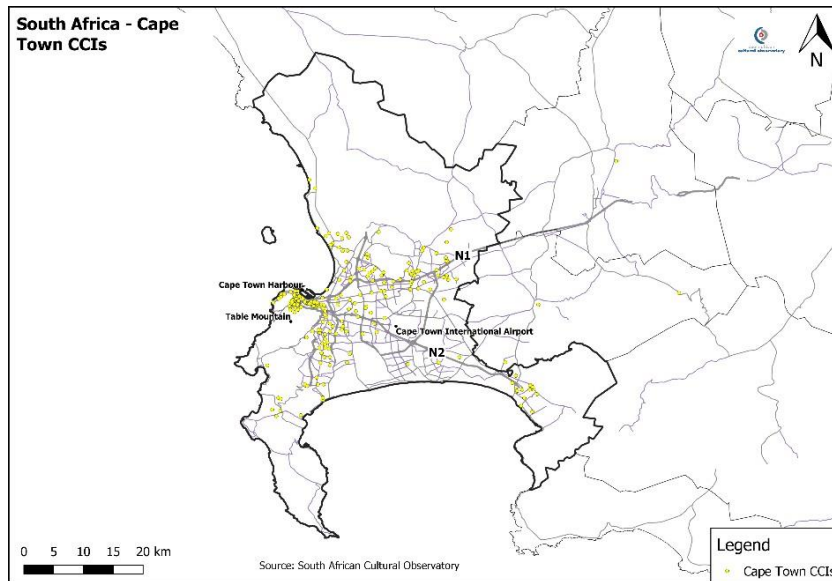


Figure 7: The location of CCIs in Cape Town

Verified records were preferred but all records from the categories that fit a cultural domain description, and that also had at least one form of contact information were added to the database. A category was deemed exhausted when duplicate records started to appear regularly in the lists or if the organisation on a particular listed page did not exhibit the cultural activities as described by the category (for example, a furniture store listed as a craft sector firm without any evidence of self-crafted items, but being primarily a retail outlet for mass produced goods). The final database consisted of 349 entries.

Data collection

Data was collected in two ways: Telephone interviews with as many of the firms in the database as possible; and invitations to complete an online survey (using the same questionnaire). Data was collected by SADC Research, a research company based in Cape Town with considerable experience and local knowledge.

All the firms in the database for which telephone contact details were available were phoned and invited to complete the survey via telephone interview (at the time of the initial call, or at a later time more convenient to them), or alternately, to complete the survey online via a link that would be emailed to them. Only the director, manager or owner/operator of each firm was requested to participate.

A number of data collection challenges quickly became apparent. Firstly, even with a reduced number of questions, the telephone interviews took an average of 20 minutes to complete, and some respondents either declined outright, or did not complete the interview on the grounds that it was taking too much time. Secondly, although firms were carefully targeted, some declined to participate on the basis that they did not regard themselves as part of the cultural and creative industries. Even some of those who clearly did qualify (using the UNESCO Framework) seemed not to be aware that they were part of a distinct economic sector. This speaks to the relatively low profile of the CCIs as a sector in South Africa which, unlike mining, manufacturing and even tourism, has not received much policy or press attention.

To mitigate the difficulty of collecting data via telephone interviews, some face-to-face interviews were conducted, which yielded much better results (although time consuming and costly). In addition,

The Cape Innovation and Technology Initiative, an innovation hub that supports technology start-ups, agreed to share the link to the online survey with their members. While not specifically focused on the cultural sector, their focus is to “promote the inclusive growth of the digital economy” and includes some CCIs.

In total, 74 usable responses were received⁴ (53% as responses to the online survey, and the rest from interviews) over a period of 3 weeks in October and November 2019. Data was analysed using quantitative analysis, and in such a way that it could be compared where possible, to the Brighton Fuse results.

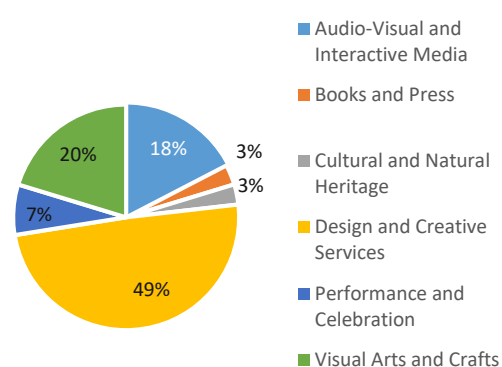
4 Results

4.1 Shape and size of the Cape Town cluster

The sectors in the Brighton and Cape Town studies were defined somewhat differently. In the UK study Standard Industrial Classification codes were used, while in the South African study, the cultural domains (as identified by UNESCO) were used. This means that direct comparison is not possible. The Brighton study found that the largest group of firms were involved in developing content (22%), followed by those in design services (16.5%), digital agencies (13.6%) and digital technologies (13.4%).

Table 3: Cape Town cluster sample composition

Classification	Number	Percentage
Advertising and Marketing	9	12%
Architecture	1	1%
Crafts	9	12%
Design and Designer Fashion	14	19%
Film, TV, Video and Radio	9	12%
Graphic Design	10	14%
IT, Software and Computer Services	3	4%
Museums, Galleries and Libraries	2	3%
Music, Performing and Visual Arts	5	7%
Photography	5	7%
Publishing	2	3%
Unspecified	5	7%
Total	74	100%



In the Cape Town cluster, the largest group of firms was related to Design (Design and Designer fashion, 19%; Graphic design 14%, Architecture 1%), which fall into the UNESCO Domain “Design and Creative Services (34%). This is followed by Audio-Visual and Interactive Media (film, television, video and radio), which made up 12% of the sample, and crafts (12%).

About a third of firms in the Brighton sample were owner operated (1 owner with no employees). This group made up 23% of the Cape Town sample.

Half of the firms in the Brighton sample started operating in the 10 years prior to the survey, compared to 57% in the Cape Town sample. In Brighton, 25% of firms were younger than 5 years (defined as a

⁴ Note that not all respondents answered all questions, since ethical research conduct requires that participants be allowed to decline to answer any specific question, or to terminate the survey at any time, even after giving informed consent. Surveys with more than 70% of responses missing were not included in the analysis.

start-up) at the time of the study, compared to 36% in Cape Town. The Cape Town sample thus consists of some older, established firms, but with an increasing number of start-ups⁵.

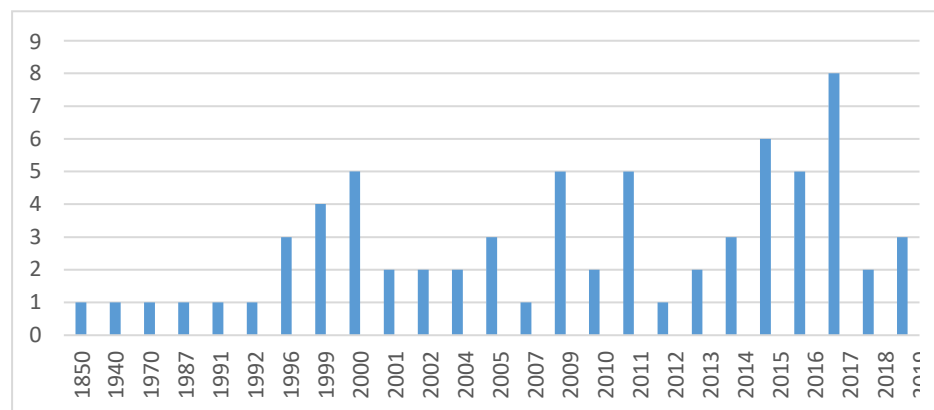


Figure 8: Firms in the Cape Town Sample by Founding Year

The Brighton Fuse (Sapsed and Nightingale, 2013) study found that the average firm in their study employed 7 people (median of 2). In the Cape Town study, the average number of permanent staff was 19, but this was influenced by a few large companies. A more representative number is the median, which was 4 permanent staff. Each firm employed an average of 8 freelance (or contact) workers over the previous financial year (median of 5). What this indicates is that, as in many countries, creative industry firms are small, but use freelance workers to manage the project-based nature of their work and demand volatility.

Table 4: Permanent and Freelance employment in the Cape Town Cluster

	Permanent	Freelancers	Total
Number of Firms with Employment Data	68	50	71
Full-Time Employees	1273	405	1678
Average	18.7	8.1	23.6
Minimum (Excluding owner-operators with no employees)	1	1	1
Maximum	360	50	360
Range	359	49	359
Median	4	5	4

An important question in both studies were the responses to the statement about the extent to which businesses combined “ideas from creative arts” and “technology”. Responses were recorded on a 1 – 5 scale, where 1 indicated “not important at all” and 5 indicated “very important”.

33% of firms in the Brighton study were classified as “fused”, that is, they combine creative design and technology in their work, and a further 33% were classified as “super fused” that is, they regard the combination of creativity and technology as “very important” for their work.

The Cape Town study had similar results, with 62% of firms regarding the fusion of creative arts and technology as either important (rating of 4, 22%) or very important (rating of 5, 40%) for their business. A quarter of firms were unfused, with 15% regarding it as “not important at all” and a further 10% giving it an importance rating of 2 out of 5.

⁵ A few firms reported having been in operation for a very long time, in particular, one fine art institution which claimed to have been founded in 1850. This data was checked, where possible, and found to be accurate, according to firm websites. The official date for the founding of Cape Town is 1652.

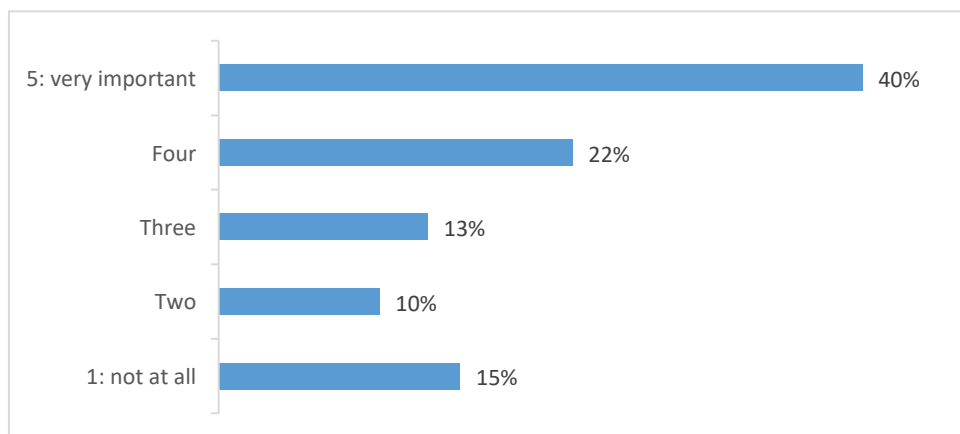


Figure 9: Levels of fusion in the Cape Town cluster: Importance of combining ideas from creative arts and technology

The Brighton study also found that firms that were fused or super fused grew almost twice as fast as firms that were unfused. Fused firms were also more likely to be recent start-ups. Sapsed and Nightingale (2013:20) suggest that “Old firms that remain unfused may face decline that could be offset if they were to open up to diverse knowledge bases”.

Table 5: Levels of Fusion, innovation and growth in the Cape Town cluster

Level of Fusion	Proportion of firms that engage in innovation	Proportion of firms who reported moderate or substantial growth
Unfused (1 or 2)	67%	60%
Neutral (3)	78%	22%
Fused (4 or 5)	89%	54%

In the Cape Town study, there was also some evidence that fused firms were slightly more likely to have experienced growth in the last financial year. Unfused firms had a slightly higher proportion of firms that became smaller or contracted in the last financial year (20%) compared to fused firms (16%)⁶. However, the differences are not large, suggesting that fusion has, in general, not yet paid off for firms in the Cape Town cluster. In terms of innovation (discussed further later on), fused firms were significantly more likely to have engaged in some form of innovation in the last financial year (89%), than unfused firms (67%).

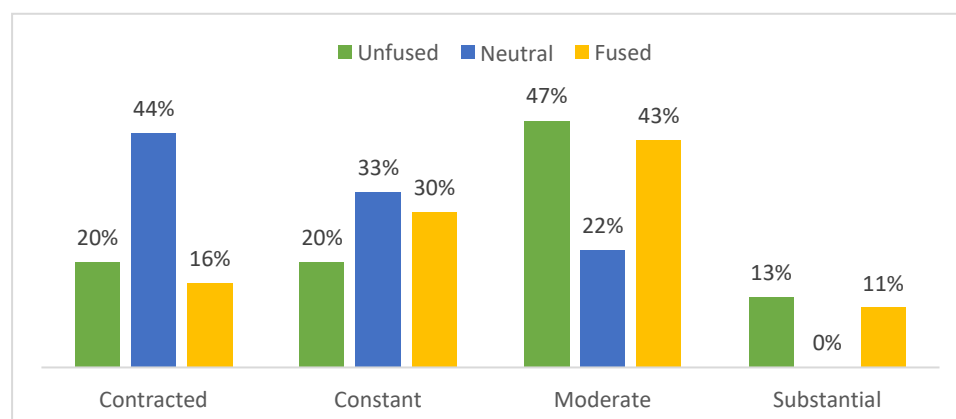


Figure 10: Levels of firm growth by fusion in the Cape Town cluster

⁶ Note that, because of the small sample size, caution should be exercised when interpreting the findings of the “neutral” group (importance rating of 3 out of 5), which consisted of only 9 observations.

4.2 Business models and Innovation

Business models and sources of revenue

In the Brighton Fuse, 60% of firms identified direct service provision as an important revenue source, while only 8% identified royalties and licencing of other kinds of IP as important for revenue. There was considerable variation across sectors. The Cape Town cluster had similar results with by far the most frequently chosen source of income as the sale of services (both online and face-to-face), closely followed by sale of products. As in the Brighton survey, only a minority of firms listed IP (13%) or Royalties (13%) as sources of revenue.

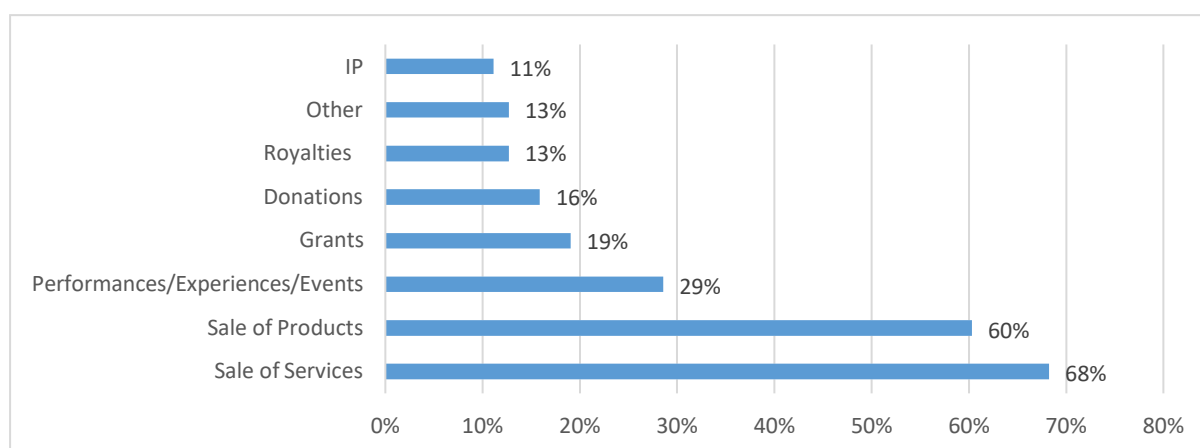


Figure 11: Instruments used to protect intellectual property in the Cape Town cluster

In terms of business models, Brighton cluster firms were largely business-to-business service providers. Sapsed and Nightingale (2013) note that a challenge from small firms in the creative sector is often how to progress from being a service provider to bigger firms to being able to develop intellectual property and products in their own right. However, such progressions may be part of a pre-digital creative economy model – in the modern era, a wide variety of business models were identified, such as the Retainer Model, Project Model, and Online Business Models.

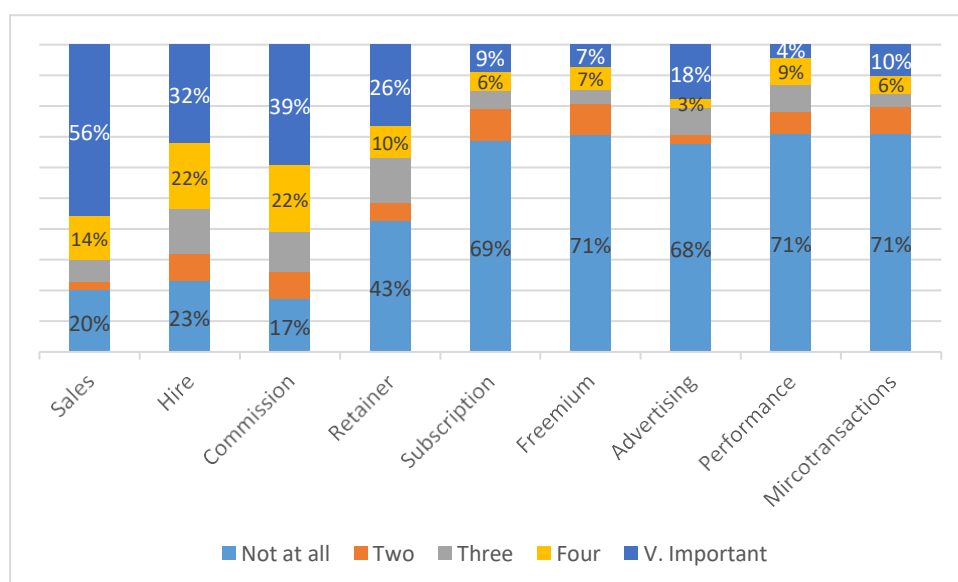


Figure 12: Business models in the Cape Town cluster: Importance of revenue from various sources

The Cape Town cluster also showed a mix of business models. Respondents were asked to rate the importance of various ways of generating revenue on a one to five scale, where one meant “not

important at all” and five meant “very important”. As shown in the figure, the most important revenue source was direct sales of products and services (rated as very important by 56% of the sample, and important by another 14%). This was followed by being commissioned defined as “you deliver work for a client over a period with a clear end date and you keep and IP”, which was very important for 39% of firms, and important for another 22%. Next most important was work for hire (“you deliver work for a client over a period with a clear end date and the client keeps the IP”) which was very important or important for 54% of the sample. For just over a third (36%) of firms, the retainer model (“a client pays you to work for an extended period, often with an indefinite end date or intention of continuity”) was an important or very important revenue source.

For only a small proportion of firms in the Cape Town cluster were online sources of revenue, such as freemium (“you provide free access to online services or content with extras chargeable for fee”) or online micro-transactions important sources of revenue.

Multifaceted Business Models						
Number of Business Models		Minimum Level of Importance				
		<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
<u>1</u>		100%	96%	94%	88%	76%
<u>2</u>		96%	86%	85%	78%	57%
<u>3</u>		96%	78%	72%	57%	33%
<u>4</u>		96%	58%	50%	32%	15%
<u>5</u>		96%	40%	33%	17%	10%
<u>6</u>		96%	29%	13%	8%	1%
<u>7</u>		96%	21%	8%	6%	0%
<u>8</u>		94%	11%	6%	3%	0%
<u>9</u>		88%	8%	4%	0%	0%

Figure 13: Combinations of business models used by the Cape Town cluster

To investigate Li’s (2019) argument that firms adopting new technologies use a “portfolio of business models”, the proportion of firms using more than one business model was mapped (Figure 13). Findings show that 57% of firms in the Cape Town cluster rated three business models as “important” or “very important” for their sources of revenue, and that 32% were using four business models. This seems to support the idea that, rather than replacing the “dominant business logic” (Mangematin et al. 2014), (sales of products and services in this case) firms in the cluster are experimenting by adding additional models.

Location and clients

For 56% of Brighton firms, London (the nearest city) was an important location for clients, followed by 40.5% who said that the local (Brighton) market was important. 26% of firms traded internationally and 28% sold to other parts of the UK. Larger firms were more likely to export.

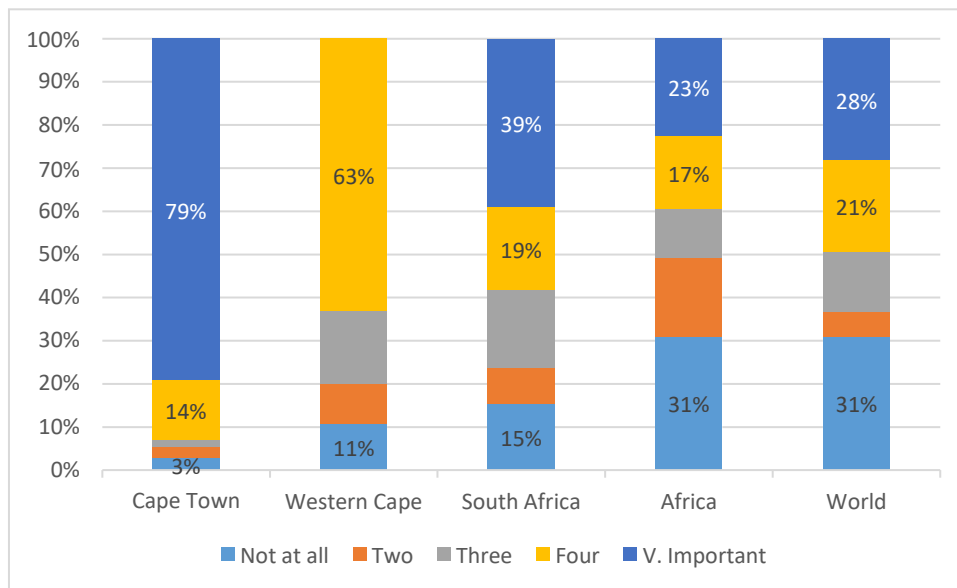


Figure 14: The importance of location as a source of clients for the Cape Town cluster

In the Cape Town case, 79% of firms identified Cape Town as a very important source of clients, and a further 14% as “important”. This is a difference from the Brighton Fuse study, where a minority of firms identified firm location (Brighton) as an important market. The Cape Town metropolitan area is much larger than Brighton, however, no firms in the Cape Town study identified the Western Cape Province as a very important market, which is likely to be because Cape Town is by far the largest city in the region. Smaller proportions indicated that South Africa (58%), Africa (40%) and the rest of the world (49%) were important sources of revenue. What the results show is that, in the case of the Cape Town cluster, the presence of a large metropolitan area is important for firms, but that it also gives them a suitable base from which to reach the rest of South Africa and international markets.

Innovation and IP

Innovation can be found in products and services, processes, organisational innovation, marketing innovations, and formal research and development (R&D). In this expanded definition of innovation, only 1% of Brighton firms did not participate in any innovative activity. The most common form of innovation was process innovation (the way of running the business), which was undertaken by 71% of firms. 61% introduced new services, and more than half produced materials eligible for copyright protection. However, IP rights (such as patents, trademarks, and registered designs) were used by a tiny minority of firms in the cluster.

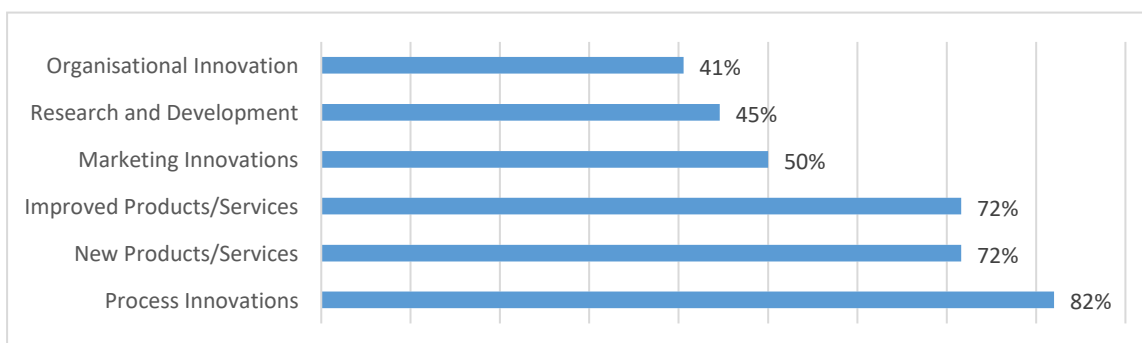


Figure 15: Types of innovative activity undertaken in the Cape Town cluster

In the Cape Town cluster, 82% of firms reported being involved in some form of innovation over the last three years. As in the Brighton study, the most common type was process innovation (82%). Within this category, digitisation (82%), big data usage (21%), and artificial intelligence (18%) were

most frequently mentioned. The next two most frequently chosen categories of innovation were the development of new products or services (72%) and/or the significant improvement of existing products or services (72%). Marketing innovations (50%) and organisational innovation (41%) were less frequently chosen. 45% of firms engaged in research and development (R&D), defined as “creative work undertaken to increase knowledge for the development of new and improved products, services and processes”. The Cape Town cluster thus shows high levels of innovation (in the expanded definition), which provides further support to the argument that innovation policy should include the creative economy and that arts and cultural policy should include innovation.

In terms of how firms in the Cape Town cluster protected their intellectual property, by far the most commonly chosen option was branding (80%), followed by less formal methods, such as offering a unique experience (62%) and lead times (53%). Only a minority of firms used more formal, legal instruments, such as registered designs (36%), copyright (31%) and patents (22%). The result verifies the argument of Nwauche (2018) that IP protection is currently at a very low level in Africa.

Table 6: Intellectual property protection in the Cape Town cluster

Protective Instrument	Proportion
Branding	80%
Unique Experience	62%
Lead Time	53%
Registered Designs	36%
Unregistered Designs	36%
Non-Disclosure Agreements	36%
Copyright	31%
Trademarks	30%
Secrecy	23%
Inherent Complexity	23%
Patents	22%

In the Brighton cluster, higher levels of fusion were connected to both higher levels of innovation, and to better economic performance. 32% of fused, and 40% of super fused firms carried out some form of innovative activity. High growth firms were also more likely to innovate (in a number of areas) than firms that had not experienced growth.

The connection between better growth and levels of fusion in the Cape Town cluster was less certain (see section 4.1), but firms with higher levels of fusion did have significantly higher levels of innovation.

4.3 Ownership, talent and diversity

The Brighton study found that most firm owners were quite experienced, which could be a contributing factor to their success. The average age of firm owners was nearly 42 (with a range of 21 – 73). Two-thirds of owners were in their 30s or 40s. They were also highly educated – 85% had at least one degree, and 27% had postgraduate qualifications.

As found in the previous study (Snowball et al., 2017), most CCI owners (86.5%) were South Africans, but white South Africans are still over-represented. Like the Brighton cluster, the Cape Town cluster is quite “grown up”, with 64% of owners being older than 35. However, it does still provide important opportunities for young people – 30% of owners are in the 26 to 35 year old age group and 6% are 18

to 25 years old. Gender distribution of owners was relatively equal: 42% of owners were women (7.5% indicated that they preferred to not answer the question, and the remaining 50.5% were men).

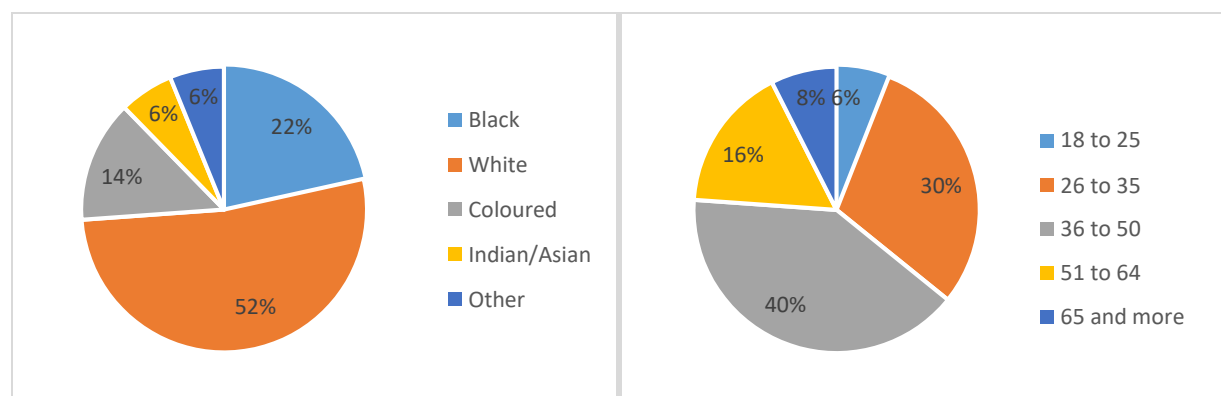


Figure 16: Ownership in the Cape Town cluster by cultural group and age

Employee demographics were somewhat less diverse than cultural occupations overall in South Africa (Hadisi and Snowball, 2019). Of those firms who reported employee demographics (recall that some firms in the sample were owner-operated), they employed on average 48% women, and 54% black people. No owners reported identifying as having a disability, but 8% of firms reported employing people with a disability (an average of 1.4% of their workforce). The lower diversity amongst firms working in sectors using digital technology has also been noted in previous research on cultural employment in South Africa. For example, in a study on gaming and animation companies showed that the majority of people working in the sector are white men. One reason given for this is that the sector is still perceived to be risky and unstable (in terms of providing employment), so that it is not recognised as a viable career path by many black, working class South Africans, especially given the high levels of technical training required (Tarentaal and Snowball, 2019). As data prices fall, and more people have access to the internet via smartphones, this is expected to change.

Table 7: Cape Town cluster employee characteristics

	Female	Black	Disabled
Average	48%	54%	1.38%
Median	50%	50%	0%

The Brighton cluster study found that it was an “interdisciplinary cluster”, with 31.4% having studied an Arts or Humanities subject at university, followed by nearly 25% who studied a STEM discipline. This is also the case in the Cape Town cluster, which has a good mix of employee human capital. An average of 51% of employees had a university degree in design (including graphic and product design); 42% had an arts or humanities degree; 32% had studied commerce (economics, business, management); and 20% had a STEM (science, technology, engineering, mathematics, also including computer science) degree. This finding suggests that the exclusion of the cultural and creative sector from South Africa’s Draft White Paper on Science, Technology and Innovation (2018) may be a mistake, since there is clearly some overlap between the sectors, and given the high levels of innovation found in such multi-disciplinary firms.

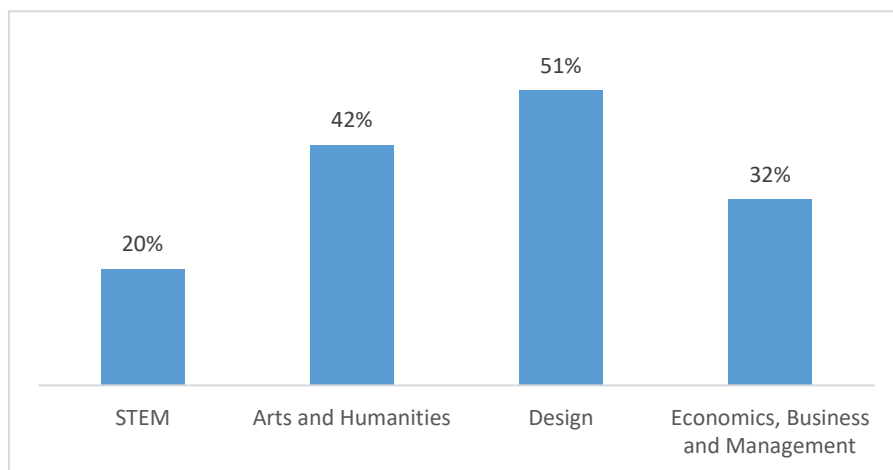


Figure 17: Educational qualifications of Cape Town cluster employees

In addition to the skills of internal employees, the Cape Town cluster also made use of a wide variety of freelance (external) skills. The most commonly used skills overall were multimedia or web design skills (including audio, graphics, text still pictures, animation, video etc.), which were used by 80% of firms in the Cape Town cluster. 34% of firms had in-house employees with multimedia skills, 36% obtained them for external sources, and 9% used both in-house and external sources. Design (of objects or services) were the next most used skill (41% in-house, 23% external, and 9% both), followed by graphic arts (including layout and advertising), used by 70% of firms. In fourth place was market research, used by 54% of firms, followed by software development and/or database management, used by 53% of firms (30% external). Minorities used skills like mathematics and statistics (31%), engineering (24%) and performing arts (27%).

Table 8: Employee skills utilised by the Cape Town cluster

	Graphic Arts	Design	Multimedia Web Design	Software Dev	Engineer.	Maths Stats	Market Research	Performing Arts
Internal	41%	41%	34%	22%	7%	18%	31%	14%
External	22%	23%	36%	30%	16%	14%	19%	11%
Both	8%	9%	9%	1%	1%	0%	4%	3%
Used	70%	73%	80%	53%	24%	31%	54%	27%
Not Used	30%	27%	20%	47%	76%	69%	46%	73%

Following on from Snowball et al (2017), a “transformation score” was constructed for each firm to give a composite measure of their level of diversity and inclusion. The transformation score has two components: employees and owners. Employee Transformation Score (ETS) is calculated by adding the proportions of female, black (including black, coloured and Indian/Asian people) and disabled employees for each firm at a particular level of fusion. Owner Transformation Score (OTS) is calculated by adding the proportions of female, black disabled owners for each firm at a particular level of fusion. The Final Transformation Score (FTS) is calculated by doubling the OTS (since ownership is arguably a more important, and currently less diverse dimension of inclusion) and adding it to ETS, the sum is then divided by 3. All three of these scores are out of three.

Table 9: Levels of diversity by fusion

Level of Fusion	Number of Companies	ETS	OTS	FTS
Unfused	18	0.944	0.556	0.685
Neutral	9	0.763	0.667	0.699
Fused	45	1.117	0.689	0.832

What the results clearly show is that fused firms have higher levels of diversity and inclusion at both the levels of employees and owners, than unfused firms. Cultural diversity, more equal gender representation, and a range of age groups could provide Heterogeneous Sources of Knowledge for firms, as discussed by Santoto et al. (2019). For innovative firms combining digital technologies and creative arts, demographic diversity could be an important part of developing their competitive advantage. From a social justice point of view, it is also encouraging that firms in these new areas are more inclusive than those (generally older) organisations that are unfused.

4.4 Location, opportunities and challenges

The importance of the Cape Town location as a market for firms in the cluster has already been determined: 79% of firms identified Cape Town as a very important source of clients, and a further 14% as “important”. The UK study found that 73.4% of respondents said that the “Brighton lifestyle” was an important reason for locating their firm in the city. More than half mentioned “Brighton creativity” as one of the most important reasons for starting a company in that location. Other locational advantages were related to proximity to London (60%); access to skilled labour (49%); access to collaborators (48%); Brighton’s reputation (45%) and cultural life (42%); access to clients (39%), and the artistic community (37%).

Table 10: Identification of locational advantages and disadvantages in the Cape Town cluster

	Significant Disadvantage	Disadvantage	Neutral	Advantage	Significant Advantage
Reputation of Cape Town as Creative Place	7%	3%	26%	26%	38%
Proximity to Clients	15%	6%	30%	28%	21%
Artistic Community	16%	3%	33%	29%	19%
Lifestyle and Local Amenities	16%	11%	33%	26%	14%
Cultural Life	21%	7%	33%	21%	17%
Proximity to Industry Networks	21%	7%	37%	17%	17%
Proximity to Skilled Labour	17%	9%	45%	17%	12%
Proximity to Universities	23%	6%	43%	11%	17%
Proximity to Other Firms	22%	7%	43%	19%	9%
Proximity to International Community	20%	4%	48%	17%	10%

In the Cape Town study, similar results were obtained, with 64% of firms stating that “the reputation of Cape Town as a creative place” was either an advantage (26%) or a significant advantage (38%) for their business. Nearly half (49%) of firms indicated that proximity to clients was an advantage or significant advantage, and almost the same proportion mentioned the presence of an “artistic community”. Proximity to other firms was seen as an advantage or significant advantage by 28% of respondents, and as a disadvantage or significant disadvantage by 29%. While clusters can have positive intra-industry spillovers, the presence of similar firms also increases competition, which may

explain these mixed results, and the large proportion (43%) who were “neutral” about the impact of the proximity to other firms. Lifestyle and local amenities and “cultural life” were also identified by about 40% of respondents as advantages.

Sapsed and Nightingale (2013:42) thus conclude that,

“The ‘soft’ nature of Brighton’s reputation as a creative city thus produces ‘hard’ economic benefits for the companies based here, attracting talented workers and also feeding into the competitive facets of firms’ outputs”.

It seems that the same can be said of Cape Town.

Despite their success, firms in the Brighton cluster did identify some barriers that could potentially hinder their business. The most important were identified as:

- The current economic climate
- Not enough revenue to reinvest in growing the business
- Excessive workload
- Too much competition
- Lack of visibility and profile

(Sapsed and Nightingale, 2013:59).

Interestingly copyright or IP infringement was considered the least important barrier by firms in the Brighton cluster. However, although 50% of them reported having produced new products or services that could be eligible for IP protection, only 8% had identified royalties as an important source of revenue, which could explain this result. Overall, firms in the Brighton cluster faced three main kinds of challenges: Those associated with money and access to finance; those associated with markets (high levels of competition, and lack of visibility); and those associated with skills and managerial capacity.

Table 11: Identification of challenges in the Cape Town cluster

	Did not Hinder at all	Slightly Hindered	Neutral	Hindered	Significantly Hindered
Accessing External Finance	28%	12%	20%	14%	26%
Competition	25%	18%	22%	25%	10%
Slow Internet	38%	10%	24%	14%	14%
Lack of Technical Skills	44%	16%	17%	14%	9%
Lack of Mixed Skilled Labour	51%	14%	14%	13%	8%
Access to Office Space	58%	13%	10%	14%	6%
Lack of Creative Skills	51%	17%	13%	10%	9%
Infringement of IP	64%	10%	11%	10%	4%
Lack of Managerial Skills	46%	12%	29%	9%	4%
International Trade Regulations	66%	13%	11%	6%	4%

The most frequently cited hindrances in the Cape Town cluster were the lack of access to finance (40%) and “too much competition” (35%). However, it should be noted that 40% of firms also said that access to finance had not hindered at all (28%) or only slightly hindered (12%) their business. Slow internet speeds and/or low bandwidth, was indicated as a hindrance or significant hindrance by 28% of respondents. Much smaller groups mentioned challenges related to skills and office space.

As in the Brighton survey, only 14% of firms regarded “illegal infringement of intellectual property, including copyright” as a hindrance. This may be because, other than branding, only a minority of firms

used more formal, legal instruments, such as registered designs (36%), copyright (31%) and patents (22%) to protect their IP.

5 Conclusions and Recommendations

New digital technologies provide both unprecedented opportunities for innovation and growth in the cultural and creative industries, as well as threats related to the insufficient protection of intellectual property. This research is the first, to our knowledge, to examine the nexus between digital technologies, innovation, intellectual property, and diversity in the cultural and creative industries in a South African context.

A pilot study of CCIs operating in the Cape Town metropolitan area cluster in South Africa was conducted. Cape Town was chosen for the pilot study because of its reputation as a creative and cultural city. It is the third largest metro in the country, thus potentially providing clustering benefits to high tech CCIs. Previous research had shown a group of CCIs based in the city, and relatively high levels of employment in cultural occupations. The research design was based partly on a similar study conducted in the UK in the Brighton cluster (Sapsed and Nightingale, 2013), which enabled interesting international comparisons.

The results of the study show strong evidence of a cluster of CCI firms in Cape Town that are “fused”, that is, they combine digital technology with creative inputs to produce goods and services. They are also an interdisciplinary cluster, with high levels of innovation in business processes, goods and services. More than a third of firms (35%) are start-ups, that is, they have been founded in the past 5 years, pointing to a relatively new cluster.

While most firms are small (the median number of employees was 4, and 23% were owner operated with no employees), they have the ability to draw on a wide range of external skills around specific projects (a median of 5 freelancers was employed per firm in the previous financial year). Similar to what was found in the Brighton study, this business model allows them to be agile and productive in the volatile, project-based world of the CCIs.

As in the Brighton study, the view of Cape Town as a creative and cultural city was identified as an advantage by many firms: 64% of firms stated that “the reputation of Cape Town as a creative place” was either an advantage (26%) or a significant advantage (38%) for their business. Nearly half mentioned the presence of an “artistic community” as an advantage. This suggests that a creative atmosphere is important for innovative CCIs.

Unlike the Brighton study, fused firms in the Cape Town cluster are not yet showing superior growth performance compared to their generally older and larger unfused counterparts. On a national level, firms in the Audio-Visual and Interactive Media, and Design and Creative Services domains contribute the most to cultural sector GDP, and are growing more quickly than the rest of the economy. Cape Town firms in these sectors are thus likely to grow in the future as they become more established. At present, they are more of a “developing fuse”, being hindered to some extent by factors such as access to finance and infrastructure (internet speeds and bandwidth).

However, more fused firms showed significantly higher levels of innovation (defined broadly as innovation in products, processes and organisation). 89% of fused, compared to 67% of unfused firms had engaged in innovative activity in the last year. Despite these high levels of innovation, the most common form of IP protection was branding (80%), followed by informal measures, such as offering a unique experience or product (62%) and lead times (53%). Smaller proportions used registered designs (36%), copyright (31%) and patents (22%). Similarly, only a minority of firms regarded IP earnings (11%) or royalties (13%) as important sources of income.

There are two possible interpretations of the findings on IP, as outlined in the literature review. The first is that, for firms operating in the fast-moving, collaborative environment of the creative-digital

sector, formal IP measures are somewhat cumbersome and irrelevant. The second is that, if such firms were supported (in terms of education and financing) to formalize their IP, they could be doing much better in terms of reaping the financial rewards of their innovative activities, especially in the highly competitive international markets.

To measure inclusion and diversity, a “transformation score” for each firm was constructed, which included the proportion of owners and employees who were black, women, and people with a disability. Although not yet representative of the country’s demographic profile, finding did show that fused firms were more likely to be inclusive and diverse, both in terms of ownership and employees. Support for these kind of firms would thus also feed into the public social justice and transformation agenda.

From a policy point of view, the results of a relatively small pilot study should be treated with caution. However, there is some evidence to suggest that the Draft Science, Technology and Innovation policy of South Africa, currently very heavily biased towards STEM sector firms, could profitably include the CCI. This is particularly the case for sectors like the Design and Creative Services and Audio-Visual and Interactive Media domains, which are most likely to use innovative technologies and contribute the largest share of the creative economy’s part of GDP. Similarly, the current South African White Paper on Arts and Culture could pay more attention to a broadened definition of “innovation”.

From a private sector point of view, financing innovation is difficult, since CCI firms are often small, and innovations are high risk. As suggested by Bakhshi and Throsby (2012), perhaps public sector support for the arts could also undergo some innovation, in that a portion of funding could be made available specifically for experimentation and innovation, with the expectation that not all projects would be successful. A vehicle, like the already existing Arts and Culture Venture Capital Fund, for example, could be used to support innovation in fused CCIs as a way of investing in the future productivity of the industry.

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