



South African Cultural Observatory
A Creative & Cultural Industry Index
For South Africa

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SUMMARY

It is difficult to plot a way forward if you do not know where you are currently. With Cultural and Creative Industries (CCI) understanding the status, is very complicated. Although most people think they know what the terms ‘cultural’ or ‘creative’ denote, once they commence defining CCIs, the real issues begin to appear. Even the definitions of creative and culture, when related to industries, have no clear definitions when applied globally, nationally and even locally in some instances. There is a continuum of products and services that may seem to be more cultural and others more creative. Another problem is the rapidly changing landscape that renders some creative products obsolete while introducing others. Coupled with technology, definition is often a shifting goal.

The United Nations Educational, Scientific and Cultural Organization (Unesco) and the United Nations Conference on Trade and Development (UNCTAD) remain two key lynchpins in the definitional debate around the CCIs and their associated domains – and it is onto these that we hinge our discussions for the establishment of a South African CCI Index. However, once this issue of agreeing on the CCI domains, another issue regarding dimensions appears. Although there is less uncertainty regarding the definition of dimensions, the issue of which dimensions are relevant for a South African CCI Index arises. One dimension alone will not give a complete or accurate picture of the state of South Africa’s cultural and creative economy. A multi-dimensional approach is necessary. Sub-indices must be created. From these composite indices can be calculated.

However, this too brings complications that need to be addressed before a South Africa CCI Index can be calculated. Questions must be asked if any domain (or products, services or another element within a domain) is more important. For example, are the number of people employed more important than the value-added? Is the number of museums more important than the number of libraries (or is the number of visitors to each the overriding factor)? Similarly, when it comes to the dimensions are export more important than imports? Is turnover more important than gross value added?

This document address these issues from both a theoretical and a practical point of view. It identifies both the domains and the dimensions that can be used to calculate the South African CCI Index and sub-indices. This report identifies the data that is available and the issues that may present problems. It also shows with whom partnerships should be initiated and concluded to develop and maintain the CCI Index.

A few indices are calculated to demonstrate some of the issues that may be experienced when developing the CCI Index. A proposed way forward is also layout showing the sequencing of events that are necessary to develop a stable and robust South African CCI Index.

Key Findings

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- There are several approaches that have used to calculate CCIs for different political or spatial levels. Cross country and city comparisons have been done.
- There is no common definition of what constitutes a CCI. Some indices tend to focus on cultural elements while others focus on the creative elements.
- Within each CCI domain, irrespective of the approach or definition used, there is at least one dimension.
- Indicators used may be simple (almost using only the raw data) to construct a single index, or using ratios. Using weights the various indices are combined to create a composite CCI index.
- There is data available in South Africa to start the process to build a CCI index, but additional data will have to be purchased or otherwise obtained to ensure that a comprehensive CCI index is constructed
- Sub-indices should be published to show the areas how well the South African CCIs have performed.

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1.3 Research Team

André Gouws
Prof. Jen Snowball
Prof. Richard Haines
Johannes Jordaan

1.4 Table of Abbreviations

AFS	Annual Financial Statistics
BOP	Balance of Payments
BRICS	Brazil, Russia, India, China, and South
CCI	Cultural and creative industries
CICE	Composite Indicator of the Creative Economy
CITF	Creative Industries Task Force
COICOP	Classification of individual consumption by purpose
DAC	Department of Arts & Culture
DCMS	Department of Culture, Media and Sport
DST	Department of Science and Technology
FOSAD	Forum of South African Directors-General
GACD	Global Alliance for Cultural Diversity
GCI	Global Creativity Index
GDP	Gross Domestic Product
GHS	General Household Survey
HKSAR	Hong Kong Special Administrative Region
HS	Harmonised System (an abbreviation for the Harmonised Commodity Description and Coding System)
ICT	Information and Communication Technology
IDB	Integrated Data Base
IP	Intellectual property
ISBN	International Standard Book Numbers
ITC	International Trade Centre
KZN	KwaZulu Natal
LED	Local economic development
M&E	Monitoring and Evaluation
MFN	Most Favoured Nation
MGE	Mzansi Golden Economy
MinMEC	Minister and Members of Executive Committees
MoA	Memorandum of Agreement
MoU	Memorandum of Understanding
NFVSA	National Film, Video and Sound Archives
OECD	Organisation for Economic Co-operation and Development
PSCC	Public Sector Classification Committee
QES	Quarterly employment statistics
QLFS	Quarterly Labour Force Survey
R&D	Research and development
SAARF	South African Audience Research Foundation
SACO	South African Cultural Observatory
SARB	South African Reserve Bank
SARS	SA Revenue Services
SIC	Standard Industrial Classification
SLA	Service Level Agreement
SNA	System of National Accounts
StatsSA	Statistics South Africa
SUT	Supply and Use Tables
TRAINS	Trade Analysis Information System
TSA	Tourism Satellite Account
UN	United Nations
UNCTAD	United Nations Conference on Trade and Development

Unesco	United Nations Educational, Scientific, and Cultural Organisation
UNSD	United Nations Statistical Division
WIPO	World Intellectual Property Organisation
WITS	World Integrated Trade Solution
WTO	World Trade Organisation

Chapter 1: Introduction

1 What does this project aim to achieve?

The Cultural and Creative Industries (CCIs) can and indeed do contribute significantly to economic growth and poverty alleviation globally and in South Africa. These industries can also contribute to the conservation of South Africa's cultural heritage, and the maintenance and strengthening of cultural diversity and identity. The creation of, and support for, an enabling environment for the flourishing cultural industries serves to value and encourage both freedom of expression and collective creativity. It also protects and promotes cultural diversity. Diverse local and national identities are essential for sustainable human development. The CCIs, in turn, are a major force in protecting and promoting cultural diversity at local, national, and international levels.

Clearly the CCIs are more than simply just economic. They are intrinsically complex and complicated as they represent the span of human essence, through cultural expression. For the continued development of individuals and communities, it is essential that arts and culture be preserved and developed. To this end, arts or cultural policy must reflect the multiple benefits – social and economic – that can be gained from thriving CCIs. To achieve this, evidence-based strategies, policies and action plans are needed. This evidence-led approach supports effective decision-making, but it requires an understanding of CCIs' dynamics, based on the availability of relevant and accurate data – which this concept note proposes.

A better understanding of CCIs will go a long way in raising the profile of the CCIs in South Africa. This understanding will also contribute to the further development of the CCIs, creating a virtuous circle of material and psychological value inputs and outputs.

The development of a CCI Index for South Africa makes logical sense; as it will support the regular collection of such data and provide credible information on which to make policy, strategy, planning and funding decisions. The below paper presents the case for the development of a South African CCI Index (or set of indices). This Index will help policy formulation as well as raise the profile of CCIs in South Africa. The project has five main aims:

1. Providing an outline of the purpose of indices, definitions and parameters related to the development of a CCI Index.
2. A review of international practices and identification of the best among them, and how they could be applicable to the South African context.
3. The determination of a list of possible indicators, including sub-indicators and creative economy indicators.
4. An audit of current available data, including data in South Africa (national and sub-national) and internationally, highlighting the strengths and weaknesses of these data. This includes the identification of potential partners, both from the public and private sectors¹, to maintain the set of CCI indices.
5. A map of the way forward.

¹ It may be useful for the Department of Arts and Culture, with the support of the Department of International Relations and Cooperation, work with and liaise with the various international organisations and specific countries to identify unpublished data sources, new methodologies etc. SACO should also invite international key note speakers, presenters or even delegates to its various conferences, with two objectives, firstly to verify South Africa's CII index and secondly to provide further input into further development of the South African CCI index.

2 Why focus on creative and cultural industries

South Africa has rich traditions of art, craft, music, dance, performance, literature, film, and other forms of creative talents, services and products, as well as vast cultural heritage and profound traditional and indigenous knowledge. The vitality of its creative work comes from the combination of these traditions. Creativity, as will be shown below, is a cornerstone of economic development. South Africa's rich heritage and abundant creative and cultural capital must be used to stimulate economic growth, contribute to poverty alleviation, improved equity, and employment (more quality jobs).

With the political democratisation of South Africa, came the democratisation culture, mass education and technological advancement. This democratisation has enabled people to, in effect, become their own curators. These forces have also created the environment in which creative and talented South Africans can develop augmented by a dynamic and modern creative industries, including performing arts, fine art, craft, fashion, design, television, ICT (including software), publishing, museums, galleries, libraries, design, advertising, and architecture.

Since democratic emancipation, there has been a gradual recognition of how South Africa's creative capital can contribute to socio-economic development through the promotion of innovation, economic development, and social inclusion (DAC, 1996). The country's creative and cultural capital should and does contribute to international cooperation that in turn promotes socio-economic development. After the advent of democracy there was a great deal of international interest in South Africa. Although this interest is waning, a South African CCI Index, reflecting its rich cultural heritage will reignite renewed interest in the country. This will stimulate socio-economic development through channels such as tourism. In addition, trade, cultural heritage, intellectual property and human capital assets are recognised as areas where countries have or could develop a comparative advantage. The establishment of a South African CCI Index, together with a set of indicators, will assist South Africa to exploit these and other benefits.

Further, the CCI Index will support strategic planning and investment in the development of arts, culture and heritage resources and services. The CCIs are becoming a more prominent and a better-recognised sector both globally and in South Africa, in particular, because of their expansion and growth potential. In many countries, the CCIs are growing considerably faster than the Gross Domestic Product (GDP) average growth rate (see Unesco (2009), Rikalović, G. and H. Mikić (2011), and Snowball (2016)). A thriving CCI base is also associated with greater levels of innovation and prosperity (see Landry and Hyams (2012) and Florida (2002)).

The South African government has recognised the economic potential of the sector through, among others, the Mzansi Golden Economy Strategy (MGE) Strategy (2011), the dti's sector desk and some targeted incentives. Export of CCI products and services has also been identified as a focal point. The MGE supports creative industries by developing practical strategies and programmes. It is also tasked with supporting key projects and providing training. The MGE was expected to create 150 000 work opportunities between 2012 and 2017 – the outcomes of which will be reported on in the near future. Some early reports show that CCI jobs made up 2.93% of total employment in South Africa in 2014 (443 778 jobs), which is slightly more than mining (SACO, 2016: 1).

Also, the Department of Arts & Culture (DAC) is currently working on a revision of the 1996 "White Paper on Arts, Culture and Heritage" to take greater cognisance of the CCIs and their potential impact (South African Department of Arts and Culture 2016). One of its goals is to effective delivery of arts, culture, and heritage services to all the people of South Africa within a coherent framework of national development. It also aims to ensure that arts, culture, and heritage contribute to the creation of a better life for all. The revised White Paper also addresses the challenges of inequality, poverty, unemployment, and persistent division based on race, gender and other factors of exclusions. Its intention is to effectively contribute to building a cohesive and united society in which everyone has access to arts, culture and heritage, resources, facilities, and opportunities. From an economic

standpoint, there are three main considerations with regard to the CCI Index development, outlined below.

Economic

There is a positive impact of cultural investment on the growth rate and income for countries where significant cultural capital has already accumulated enabling available human capital to be used in innovative ways (Bucci, Sacco, and Segre 2014).

Local Economic Development

The cultural value of identity is of particular importance in local economic development, whether understood at the level of a nation, a province, region, city, town or village or some other context. Sub-national governments (both provincial and local) must exploit the cultural heritage in their areas for the benefit of their citizens. Although this report has a national focus, many cities across the world (especially the so-called 'creative cities') have developed CCI indices and are striving to grow their CCIs.

Spill-over Effects

CCIs produce many different types of positive spillovers on the economy and society as a whole. CCIs contribute to inspiring and nurturing creative and innovative entrepreneurs. They can lead to innovations in all social and economic fields. These spill-overs inevitably lead to improved economic performance and a 'better life for all'. Tracking these spill-overs via an index is critical for the country's policy and decision-makers and indeed for the development of the industry itself.

3 Towards a South African CCI Index

As will be discussed below, one of the purposes of an index is to evaluate the status of a particular phenomenon or variable. A single composite index, that includes a number of variables, is an easy approach to convey vast information. However, 'the devil is in the details'. Therefore, although the goal is to present a single index, it must be accompanied with sub-indices covering various domains and dimensions. Therefore, the South African CCI Index should rather be seen as a set of CCI indices that is comprised of both composite and simple indices. In the interest of transparency, access should also be given to the raw data that is used to compile the South African CCI Index.

4 Uses of CCI indices

Since strategies, policies, and action plans must be evidence-based, data and other evidence are required. Instruments for data collection and analysis, such as satellite accounting systems and mapping of cultural industries, are needed to enable knowledge-based elaboration of strategies, policies, and action plans. Further, an assessment of the direct and indirect economic and social benefits of cultural industries should be the base for instructive action plans. The South African Cultural Observatory (SACO) has been established to contribute to these objectives. A CCI database, a mapping study, and Satellite Accounts are already being developed. A CCI Index will use information from these and likewise inform their further development.

After discussing the purpose of indices, reviewing of international practices, identifying possible indicators, and an audit of available data, the report will map the way forward. This will include how to develop and maintain the set of South African CCI indices.

Chapter 2: Desktop Research

1 The purpose of indices

For the development of policies or any effective decision making, quality and timely information is critical. The information should help decision-makers identify gaps or potential misalignment challenges. The information must be relevant and timely. In today's world, with technology and the Internet, access to information is no longer the problem it used to be. Unfortunately, *information overload* is increasingly becoming a problem. In some instances, the amount of information is simply overwhelming and cannot be used in its natural or raw form to help with effective decision-making. The information must therefore be filtered, interpreted and simplified. This is perhaps one of the most essential functions of indices and the goal for a South African CCI Index

2 Definitions of indices

An index is calculated from one or more indicators that each measure a key issue or phenomenon. It is a measure of changes of particular set of data or changes in a representative group of individual data points. In other words, it is a compound measure that aggregates multiple indicators that should be representative of individual data points. Each indicator is derived from observed facts. An indicator therefore embodies data (for a specified time, place, or any other relevant characteristic) and is statistically adjusted to allow for meaningful comparisons. Indicators reveal relative (positive or negative) positions to other time periods (showing change) or geographic areas. An indicator can have several dimensions and associated with a domain that is been examined. The Oxford Dictionary of Statistics defines an index as, '[a] measure of the value of a variable relative to its value at some base date or state'. An index, therefore, is basically a measure that that can be used to summarise and compare observations, while indexes summarise and rank specific observations.

Abstract or intangible concepts

Many of the realities that need to be measured can be of an abstract or a theoretical nature. These concepts are diverse and not easily reduced to numbers, or the quantitative data does not accurately represent the issues that need to be measured. Indices, therefore, take several pieces of data (in many cases using some data as proxies for the variables that need to be measured) and reduce them to simple, understandable and easy to compare numbers.

Sources of data

The data used in compiling indices can be derived from multiple sources. It usually depends on the purpose the index has been created for and what data is available (or collected). The sources of the data for the CCI indices will be discussed in Chapter 4 below.

2.1.1 Composite Indices

Composite indices are a special type of index that combines two or more related indicators to give a "simple score" without cluttering this information with much, often confusing, data. A specific index contains a single component (or variable) while a general (or composite) index is calculated by combining various variables or specific indices in one index. There are two schools of thought regarding composite indices:

1. Indices calculate summary statistics that reflect or capture reality and that these are meaningful. A composite index is akin to the outcome and is therefore extremely useful for policy makers and in gaining media interest.

2. The other school (non-aggregators) avoids aggregation and holds that the raw data should be used to compile a set of indicators only. They see composite indices as being of an arbitrary nature considering the weighting process.

Saltelli *et al.* (2005: 6) provide a summary of the main pros and cons of using composite indicators:

Advantages of composite indicators

- Summarise complex or multi-dimensional issues, in view of supporting decision-makers.
- Are easier to interpret than trying to find a trend in many separate indicators.
- Facilitate the task of ranking countries on complex issues in a benchmarking exercise.
- Assess progress of countries over time on complex issues.
- Reduce the size of a set of indicators or include more information within the existing size limit.
- Place issues of countries performance and progress at the centre of the policy arena.
- Facilitate communication with ordinary citizens and promote accountability.

Disadvantages of composite indicators

- May send misleading policy messages, if they are poorly constructed or misinterpreted.
- May invite drawing simplistic policy conclusions, if not used in combination with the indicators.
- May lend themselves to instrumental use (e.g. be built to support the desired policy), if the various stages (e.g. selection of indicators, choice of model, weights) are not transparent and based on sound statistical or conceptual principles.
- The selection of indicators and weights could be the target of political challenge.
- May disguise serious failings in some dimensions of the phenomenon, and thus increase the difficulty in identifying the proper remedial action.
- May lead wrong policies, if dimensions of performance that are difficult to measure are ignored.

A CCI Index allows us to understand in what way the CCIs have or are changing. Since CCI data comes from various sources it is possible to compare these data sets on the same scale. If one component of a composite index increases over time, and all other remain constant, then the index will increase. It is necessary to drill down and identify the variable and its corresponding index. This simple index assists in gauging the extent of change. Both composite and simple indices help to make things easier to analyse the complex reality of the world in which we live. While economists are comfortable with large and complex raw data sets, the CCIs are not as well versed in such approaches, making an index/indices a critical tool for communicating directly and simply with the industry.

2.1.2 Types of Indicators

Stocks and flows

Analysts often confuse economic stocks and flows. “A stock is now time dimension and is measured at a particular point in time while a flow is measured over a period (irrespective of short that period might be)” (Mohr 2005:12). There are many cultural assets and heritage sites that can be CCI stocks including Unesco heritage sites, museums, and libraries. On the other hand, CCI services, information, CCI production, CCI employment, or even global integration are flows. Therefore, CCI stock indices and CCI flow indices must be created. It is important that they be interpreted and used correctly.

Ratios

In addition, there are ratios that can be calculated between two stock and flow indicators. Examples would be number of libraries per 100 000 people or GDP per capita. This data can be combined to draw conclusions about specific locations, spaces and behaviours.

2.2 General methodology to calculate an index

Before an index or set of indices can be constructed, several preconditions must be met. (These will be discussed below and include understanding the *raison d'être* or the purpose of each index and quality information used to construct the index). The processes to calculate an index can be broken down into several logical steps:

1. Identification of each basket and the composition of each basket (based on their face validity, unidimensional, the degree of specificity in which a dimension is to be measured, and their amount of variance). Items should be empirically related to one another, which leads to the second step of examining their multivariate relationships.
2. Establish a base period.
3. Determine the weights that should be assigned to each basket (indexes scores are designed, which involves determining their score ranges and weights for the items).
4. Collecting the data.
5. Calculating the index number.
6. Finally, indexes should be validated. This involves testing whether they can predict indicators related to the measured variable not used in their construction.

2.2.1 Identification of Each Indicator or the Composition of Each Basket

Ultimately the intention informs the composition of each index. In turn this conveys which goods and services are included in each basket. Besides the motivation for the index, this means that the definition of CCIs is paramount. There is a continuum from what is considered a cultural product (or service) or art through to a creative product (or service). The Policy Research Group (2013: 14) developed a general revolution of the creative economy starting with arts then the cultural industry (industries) through to creative industries and finally the creative economy. See figure 2 below.

Indicators

An indicator is a piece of socio-economic data. In the CCI context, an indicator is a piece of data that has both domain and dimensional elements. The CCI indicators allow analysis elements of CCI performance. Again, the choice of indicators is contingent on the imperatives for which the CCI Index is being developed.

CCI Domains

Because there is a continuum of CCI goods and services domains, as well as many potential domains, it is critical that the domains are defined as closely as possible. This is not unproblematic. Within each of the CCI domains there is great deal of definitional and other debate.

Therefore, selection is a game of rational choice and definition to decide which domains should be included; adding a political, economic and social dimension to the index. Nevertheless, the Unesco Framework on Cultural Statistics (2009) provides a backdrop onto which South African can hinge a distinctly African set of indices, but one that considers global best practice.

Another question that must be asked regards that of the role of CCI supporting sectors and to what extent these should be included in the definition and the index.

The domains and dimensions are discussed in Chapter 3. The study uses the domains identified by UNCTAD and is presented in Appendix A.

Dimensions

Each CCI domain has at least one dimension. Each dimension must also be well defined. Unlike the CCI domains, there is greater consensus regarding each of the dimensions. These dimensions include, but are not limited to, economic variables that are routinely collected for all industries by statistical agencies: gross value of production, value added, fixed capital formation, levels of employment of different categories of labour and so on. (These concepts and other CCI dimensions will be discussed below.)

Two additional dimensions, a spatial element and time are important and either implicitly or explicitly included in any index. The time element will show how the indicator reveals improvement of the indicator of time. On the other hand, a spatial element allows comparison between countries, sub-national regions, and supra-national regions.

2.2.2 Choice of the Best Reference Point and Period

The best period is used as a reference point of any index and the index number for this period is usually set at 100. The ideal year is often decided randomly, but can be decided where there is a structural break. This point of time (usually a year) can be done after a recession, a new policy or other notable event. Although, with the initial establishment of the CCI Index, this will not be a problem.

Re-indexing

The re-indexing problem arises once there is an established time series of indices. Once the time series becomes too long, it is necessary to rebase the index. In the meantime, users interpreting the index number must understand what the baseline period is.

The choice must also be made whether the weights or relative importance of each component remains the same over time or if the weights change if a component becomes relatively more (or less) relevant. Three methods are used:

- Paasche method (uses the current period weights)
- Laspeyres method (uses fixed base-periods weights); or
- Fisher method (as a combination of the Paasche and Laspeyres methods).

Since the Laspeyres method uses a common denominator base, the index produced is comparable over time. The calculation of this index requires significantly less information than any other technique. Because fixed weights are used, this index tends to overstate improvements or increases and understates decreases. It, therefore, has an upward bias over time.

2.2.3 Weights

Since the definition of CCIs and domains are fluid and flexible, there are disputes about what should be included in a composite index. Since not all indicators are equal, some indicators should be given prominence. To construct a meaningful composite index, the various items or components must be weighted. The weight assigned to each item by its relative importance. Again, when deciding which indicators are more important, the *raison d'être* must be reviewed to determine and assign weights to each basket (and the components within each basket). In some cases, two more indicators may be very similar, and care must be taken not to allocate equal weightings (or even include both indicators) to prevent an unbalanced index. For example, the number of libraries, distance people have to travel to libraries and number of libraries per 100 000 people all could be included in a “library” index. From a policy perspective, the distance travelled may be more critical than the actual number of libraries.

However, if international benchmarks only include the number of libraries, and number of libraries per 100 000 people and not the distance people have to travel to libraries, a choice must be made whether policy outweighs international benchmarking.

The weights within each index or each sub-index usually add up to either 1 or 100. The problem is not that these weighting procedures are:

- Hidden;
- Non-transparent; or
- Non-replicable.

Although the procedures and especially the weight used are often very explicitly presented by the authors of the indices, how they are derived and especially their normative implications are seldom made, explained or justified. These authors presumably want the focus to be on the issue at hand and not necessarily the methodology.

2.3 Interpreting indices

Depending on the indices' purpose, other types of indices must be considered. Particularly in the development of policy, issues of causation are important. Similarly, in monitoring and evaluation, indices that represent either input, process, output, outcomes, and impacts must be identified. Each of these indices again must be interpreted carefully bearing in mind what the intent of the index was.

It is important to note that index number is only a relative measure of the state of the CCIs at a point in time or over a period. It only indicates the extent to which a phenomenon measured has changed compared with an earlier period. If the purpose of the index is to compare performance across geographic regions, it is critically important that the exact same methodology, including the data and weightings applied are used.

2.3.1 Use and Abuse of Indices

Indices have limitations. Reading too much into an index is problematic. An index does not try to quantify multipliers or any financial ripple effect of an industry in a region or country (such as how much someone spends at restaurants and hotels while in town for a festival). The focus is rather on quantifiable and objective data. It is important to remember that "[a] composite indicator is an aggregated index comprising individual indicators and weights that commonly represent the relative importance of each indicator. However, the construction of a composite indicator is not straightforward and the methodological challenges raise a series of technical issues that, if not addressed adequately, can lead to composite indicators being misinterpreted or manipulated. Therefore, careful attention needs to be given to their construction and subsequent use" (Saltelli *et al.* 2005).

Unscrupulous use of indices

An index number on its own does not give any indication of the performance or the actual level of the variable. Unfortunately, the calculation of index numbers can be manipulated to yield various results. This is done by changing the composition of the basket of goods and services used to calculate the index, changing the base period. Variations in the weights allocated to each component of the index and even the formula used to derive the weights can also influence the index.

Transparency is therefore critically important. If a stakeholder is an outlier and is performing well (or having trouble with some aspect of the policy etc.) and the index is showing the opposite, the stakeholder will be unhappy and question the validity of the index. It is therefore vital that as much information as possible is published together with the index or set of indices. Similarly, the choice of goods and services in each basket, the formula, and the weights allocated to each indicator must be determined scientifically.

Real Versus Nominal indicators

All financial indicators should be expressed (or at least calculated) in inflation-adjusted or “constant” terms. Inflationary factors can distort indices and over-exaggerate their performance.

Other Caveats

The construction of composite indicators involves stages where subjective judgement has to be made: the selection of indicators, the treatment of missing values, the choice of aggregation model, the weights of the indicators, among other variables. These subjective choices can be used to manipulate the results. It is, thus, important to identify the sources of subjective or imprecise assessment and use uncertainty and sensitivity analysis to gain useful insights during the process of composite indicators building, including a contribution to the indicators’ quality definition and an appraisal of the reliability of countries’ ranking (Saltelli et al. 2005) (see also Appendix B).

The literature also has a few caveats regarding indices or composite indicators (OECD, 2008). Despite recent attempts to establish good practice in composite indicator construction “there is no recipe for building composite indicators that is at the same time universally applicable and sufficiently detailed” (Cherchye *et al.*, 2007). Booysen (2002) summarises the debate on composite indicators by noting that “not one single element of the methodology of composite indexing is above criticism”. Andrews *et al.* (2004) argue that “many indices rarely have adequate scientific foundations to support precise rankings: [...] typical practice is to acknowledge uncertainty in the text of the report and then to present a table with unambiguous rankings”. Therefore, the data sources, information, selection and rejection processes as well as other areas of ambiguity need to be carefully considered.

3 A CCI Index

This section will review the challenges discussed above and particularly the definitions that could be used to create a CCI Index for South Africa.

3.1 The purpose of a CCI Index

At its most basic level, a CCI Index should show progress (or lack thereof) of the state of the creative and culture industries in South Africa. Depending on how the index is created, it could also show areas (both within South Africa and across all cultural components) where there has been significant achievements or underachievement.

3.1.1 Policy

In a policy environment, a CCI Index is comparable to a warning light. If there is steady progress or progress is the same as other countries, the light will be green and there will not be too much to worry about. If it is amber, further analysis is required to determine the cause. A red light would signal an urgent policy/ strategic intervention.

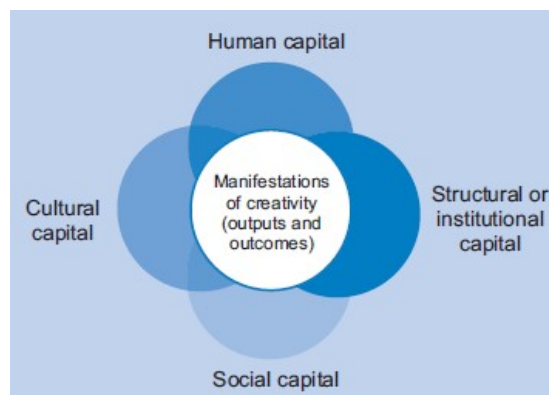
It is necessary to have an early warning system. If there is stagnation or mild regression in South Africa, an analysis of the underlying indicators will provide a suggestion as to what the cause could be. Further analysis of the underlying data may reveal the cause and how to remedy the problems before they escalate. A red light will flash if there is serious deterioration or a fall in ranking (if international comparison is done). Then, resources may need to be diverted from other areas to address more critical areas.

Understanding the drivers of CCI performance

Hui *et al.* (2005) propose a framework for their Creativity Index, also known as the 5Cs model. They postulate that ‘creativity’ can be defined as the process by which ideas are generated, connected, and

transformed into things that are valued. ‘Originality’ on the other hand, means creating something from nothing or reworking something that already exists to take on a completely novel form.

Figure 1: Creative-industry value chain



Source: Hui *et al.* (2005)

In this model, four CCI inputs are measured: cultural capital, human capital, social capital and structural or institutional capital.

Similarly, Richard Florida (2004) identifies, what he sees as the primary drivers of economic growth at the regional and national levels (human capital, skills and creativity) and asks: ‘Why are some sites better placed to attract and retain human talent and creativity?’. His answer comes in the form of the 3Ts, or the magic formulae to building a creative city: talent, technology and tolerance.

Both of these approaches could inform the South African CCI Index.

Understanding the outcomes of CCI performance

The value chain discussed below provides a better clarity as to what is considered an outcome of CCI performance. In essence, it is cultural consumption is the primary outcome. This outcome leads to wider socio-economic impacts through backward and especially forward linkages.

3.1.2 Creating awareness of CCIs in South Africa

There is a lack of awareness of the socio-economic importance of CCIs both in South Africa and, to a lesser extent, across the developing countries. A CCI Index would contribute to awareness and it could also play a role in achieving political and socio-economic goals. With greater awareness, particularly of outcomes and benefits, resources from both the private and public sectors could be increased. In other words, a South African CCI Index can be used as a marketing and promotion tool for the industries; as well as an easy to understand and assimilate range of data to be used across multiple platforms and channels. Different constituencies would be interested in different components of the information available which could be tailored to address different needs.

Different domains would also be able to compare their performance and, ideally, be spurred to improve on their accomplishments and manage their challenges. Similarly, different provinces and municipalities would be able to plot their progress and use the components of the CCI Index to put more effective policies in place. The South African CCI will therefore contribute to peer learning.

3.2 How CCIs are defined and measured?

In the CCIs, policymakers need different indicators that identify and focus on specific CCI activities or infrastructure, not only to show progress, but also to inform them as to what strategic interventions

are required that would lead to an improvement/delivery of specific goals and objectives. In their monograph, Strazdas *et al.* (2015) try to answer the key question – “how to maximise creativity and innovation in an enterprise, region or economy”. An index would support the answering of such. In addition, CCI policies and interventions can therefore be targeted to improve the overall cultural well-being of a nation or even a sub-national region within a country. Indices hence help with the identification of areas of required intervention and with the requisite allocation of resources to achieve the best results.

As outlined above, before a CCI Index can be created, indicators are necessary. Before indicators are selected, the CCIs must be defined. The immense volume of data is a problem in trying to appreciate to size of CCIs. Unesco (2005) claims that the terms or concepts of “cultural industries” and “creative industries” are almost interchangeable. They hold that “cultural industries” emphasise industries whose inspiration is derived from heritage, traditional knowledge, and the artistic elements of creativity, while on the hand the notion of “creative industries” emphasis is placed on the individual’s creativity, innovation, skill, and talent and particularly in the exploitation of intellectual property. The next section deals with definition in deeper detail.

3.3 Towards a definition of CCIs to develop CCI indices

Broadly, CCIs are there those activities (or branches of industries or sectors) that produce both tangible or intangible artistic and creative outputs using creativity, cultural knowledge, and intellectual property to produce products and services with social and cultural meaning. They have the potential for wealth creation and income generation through the exploitation of cultural assets and production of knowledge-based goods and services (both traditional and contemporary). However, when building an index, a more precise definition is needed.

3.3.1 Problems with Cultural Statistics

The CCIs have not been considered an economic sector in many of the established classification systems. Therefore, many cultural and creative products are included in the broad pop or aggregated (and very often the narrower or disaggregated) industry definitions. Most official census bureaus, including StatsSA, cannot provide exact quantum of CCIs. This makes the use of official data problematic.

Further, the esoteric nature of culture has led to vagueness in the development of cultural policy, the analysis of culture, and the collection of culture-related data. Madden (2004) summarises the problem as follows:

Different countries have different definitions of culture (i.e. differences in the scope or boundaries of culture) and different classifications of culture (i.e. the cultural domain is broken down in different ways). Many of these fundamental differences result from differences in institutional arrangements in the cultural policy arena (for example, some cultural ministries have responsibility for the design sector, others do not, and their definitions will reflect this difference). Other differences may be philosophical, theoretical, historical, or simply arbitrary. However they arise, differences in definitions reduce the degree of comparability of cultural data. Therefore, though many organisations and governments have attempted to define the concept, it is very much fluid based on location and ironically cultural embeddedness.

3.3.2 Analytical Models for Understanding the Cultural and Creative Economy

UNCTAD (2006) points out that the creative economy “is an evolving concept based on creative assets potentially generating economic growth; [i]t can foster income generation, job creation, export earnings as well as social inclusion, cultural diversity and human development; [i]t embraces economic, cultural and social aspects interacting with technology and tourism objectives; [i]s a set of knowledge-based activities with development dimension and cross-cutting linkages at macro/micro

levels to the overall economy; [and] [i]t is a feasible development option calling for innovative intra-ministerial policy responses.”

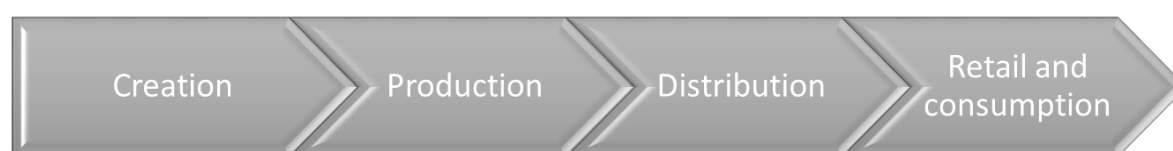
Restrepo *et al.* (2013) have identified various analytical models for understanding the cultural and creative economy (Center for Regional Studies Coffee Growers and Business 2005), guidelines for the mapping of CCI (BOP Consulting *et al.* 2010), an international agreement for a Framework on Cultural Statistics (UNCTAD 2010). Unesco has also created a Framework Framework on Cultural Statistics (2009). The frameworks discussed all identify domains and implicitly or explicitly include various dimensions.

However, before discussing these it is necessary to understand CCIs from cradle to grave. A CCI value chain is a useful place to start.

3.3.3 Understanding the CCI Value Chain

Value chain analysis is a widely recognised and uncomplicated method for analysing the structure and function of industry sectors, including CCIs. It is basically an analytical model of the creative production chain where the initial creative ideas are combined with other inputs to produce a creative good or service that are marketed and distributed to the final consumer.

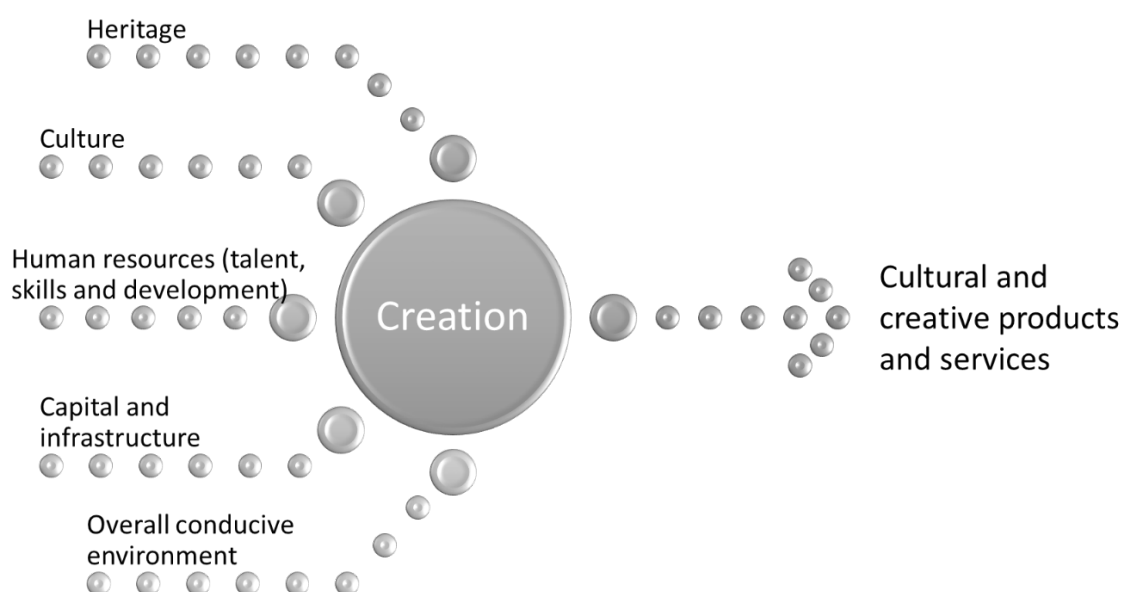
Figure 2: Creative-industry value chain



Source: Canada (2008)

However, to develop a set of indicators it is also important to realise the factors that give rise to the creation process. The composition of each element in these factors will largely determine the output of the CCI process. Indicators developed for these factors will also help highlight areas that can be improved or even exploited further.

Figure 3: Inputs into the CCI value chain



Understanding Culture

There are generally no individual ownership issues with culture. Culture is 'owned' by society (or a segment of society). Therefore, in general, society treats culture as a public good. This makes it difficult to put a true value on CCIs. In addition, creators or even producers of cultural goods or services are casualties of the "Tragedy of Commons." This harms artists and creatives, by denying them recognition of their activity as a legitimate career, and compensation for the work they do.

The Commons Tragedy is a phenomenon that explains how rational independent individuals pursuing their self-interest can actually erode a common resource without intending to do so.

Understanding copyright

Copyright is a form of intellectual property and is applicable to certain forms of creative work. It is a legal right that is part of a country's legal system. It grants the creator of an original work exclusive rights for its use and distribution. This is usually only for a limited time.

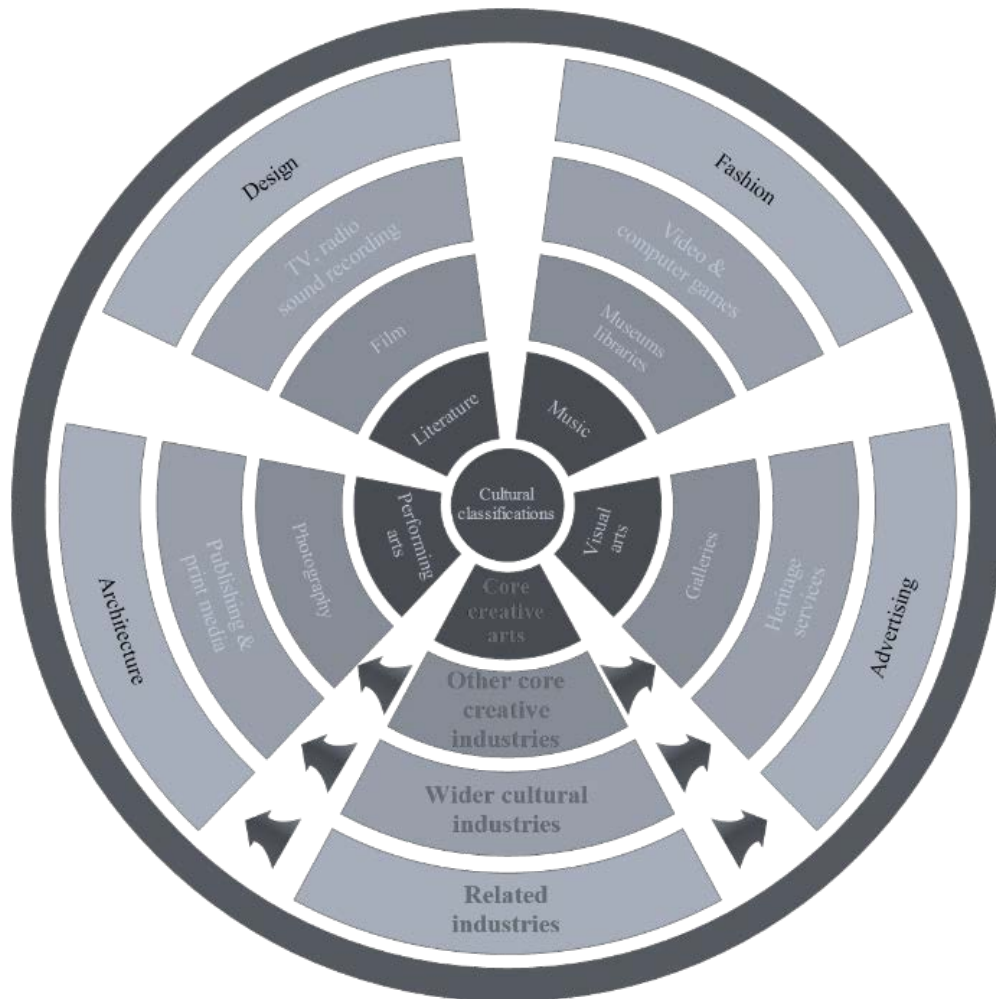
Ownership is therefore invested in a person, either a natural person or legal person such a company. Exploitation of socio-economic benefits reside in the 'owner' and cannot be used by others (or even society) without permission the owner.

The WIPO (2003) model focuses on copyrighted products and services and is grounded on industries involved directly or indirectly in the creation, manufacture, production, broadcast and distribution of copyrighted works. A distinction is made between industries that produce the intellectual property and those that are necessary to deliver the products to the consumer. WIPO identifies another group of 'partial' copyright industries where intellectual property is only a minor part of their operation.

3.3.4 Concentric Circles Model

The concentric circles model is based on the proposition that it is the cultural value of cultural goods that gives these industries their most distinguishing characteristic. The more pronounced the cultural content of a particular good or service, the stronger is the claim to inclusion of the industry producing it (Throsby, 2001).

Figure 4: Concentric circles



The model asserts that creative ideas originate in the core creative arts in the form of:

- Sound (performing arts and music);
- Text (literature); and
- Image (fine arts and performing arts).

These give rise to the cultural industries, creative industries and the creative economy that includes other core creative industries, wider creative industries, and related industries. It would also include support functions that are found in non-creative industries.

3.3.5 The Creative Economy

UNCTAD (2008b, 11–13) identify an hierarchy leading to CCIs starting with cultural industries, cultural economics and creative industries. Even though the term ‘cultural industries’ is considered an oxymoron in some circles, Unesco defines cultural industries as combine the creation, production and commercialisation of contents which are intangible and cultural in nature. Cultural industries were considered necessary for the promotion, maintenance of cultural diversity and also for the access to culture.

The concept of ‘cultural economics’ is essentially used when dealing with the economic aspects of cultural policy. The understanding of ‘creative industries’ varies among countries, but is more inclusive and extends the definition.

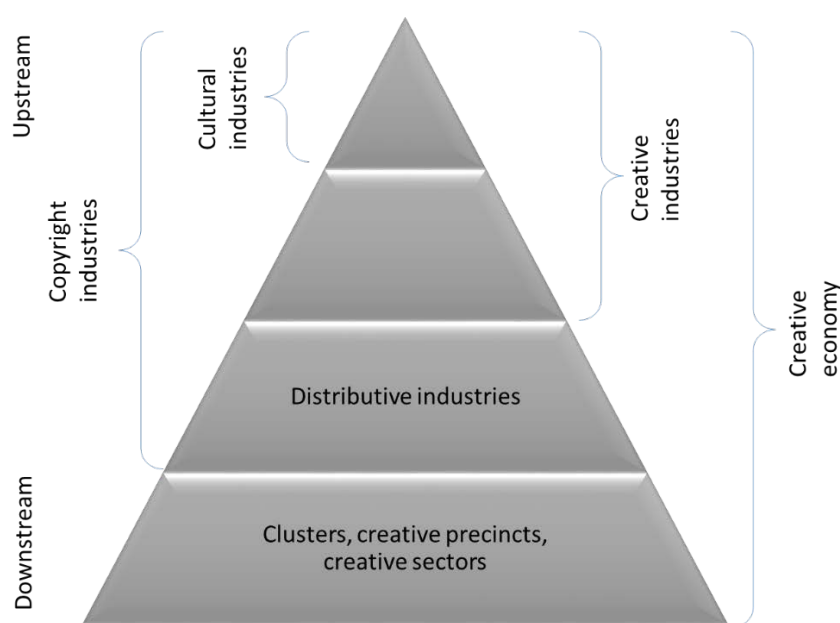
The creative industries comprise two distinct groups of activities (upstream activities):

- Basic arts; and
- Applied arts.

Together with the distribution industries, these form part of the broader “copyright industries” (downstream activities). Basic or “upstream” arts then, refers to traditional art forms such as the performing, literary and visual arts, whereas “downstream arts” refer to the applied arts such as advertising, design, publishing and media related activities.

Singapore’s industry mapping (Heng, Choo, and Ho 2003) provides a useful model for describing the creative industries that was adapted by Joffe and Newton (2007) to include the creative economy. This model allows for a holistic approach to CCIs incorporating both the commercial and non-commercial components. The model emphasises the symbiotic relationships between all CCI sectors. A growth or decline in one area will have a concomitant effect on another.

Figure 5: Composition of the Creative Economy



Source: Joffe and Newton (2007) adapted from Heng, Choo, and Ho (2003)

3.3.6 Clusters

Industry clusters are regional groups of businesses that are linked in the production process and may have similar needs for technology, infrastructure, support services and a shared pool of labour. This analysis shows how the regional economy is working and where the critical linkages are to maintain or build that economy. Porter (1990) argued that the production of CCIs in close geographic proximity can be shown to enhance efficiency and productivity growth and promote sustainable development. A specific aspect of the growth of creative production within an urban context derives from the existence of agglomeration externalities, the beneficial spill-overs that accrue to firms in proximity to one another. This has been observed in traditional centres of cultural production and creative activity. Often cultural districts arise. This phenomenon is not unique to major centres. Similar processes also produce local concentrations of cultural production. This provides economic empowerment for the community and reflects the traditional knowledge, skills and cultural traditions of the people. Therefore, “[b]y clustering together, firms can economise on their spatial inter-linkages, to reap the multiple advantages of spatially concentrated labour markets, to tap into the abundant information

flows and innovative potentials that are present wherever many different specialized but complementary producers are congregated, and so on.” (Scott, 2005:7).

3.3.7 Components of CCIs in Various Models

UNCTAD 2008 provides a useful summary of the classifications of creative industries as shown in the figure below.

Figure 6: Composition of the creative economy

Table 1.1 Classification systems for the creative industries derived from different models			
1. UK DCMS model	2. Symbolic texts model	3. Concentric circles model	4. WIPO copyright model
Advertising Architecture Art and antiques market Crafts Design Fashion Film and video Music Performing arts Publishing Software Television and radio Video and computer games	Core cultural industries Advertising Film Internet Music Publishing Television and radio Video and computer games Peripheral cultural industries Creative arts Borderline cultural industries Consumer electronics Fashion Software Sport	Core creative arts Literature Music Performing arts Visual arts Other core cultural industries Film Museums and libraries Wider cultural industries Heritage services Publishing Sound recording Television and radio Video and computer games Related industries Advertising Architecture Design Fashion	Core copyright industries Advertising Collecting societies Film and video Music Performing arts Publishing Software Television and radio Visual and graphic art Interdependent copyright industries Blank recording material Consumer electronics Musical instruments Paper Photocopiers, photographic equipment Partial copyright industries Architecture Clothing, footwear Design Fashion Household goods Toys

Source: UNCTAD 2008

3.3.8 Challenges with the Definitions of CCIs

Although the value chain provides an overall framework and the inputs into the creative process give an idea of which elements should be included, trying to define CCIs more precisely is difficult (both technically and conceptually). These difficulties include:

Current classification systems inadequately describe CCIs. The classification systems were originally designed to account for economic activities such as manufacture, mining and agriculture. The broad categories used in economic data frameworks overlook services. This makes it difficult to examine more contemporary sectors including health, tourism and CCIs and represents a significant gap that needs to be closed.

New technologies are ignored or inadequately accounted for in classification systems. New technologies affect both the value chains of creative products and their consumption dynamics. Unfortunately, because there are no discernible patterns or theoretical constructs, it is impossible to know if there will ever be a satisfactory model that will describe the relationship between technology (especially new technologies) and creative activities adequately.

High levels of informality prevalent in CCIs. Creative activities are generally underrepresented in the official data collected by national statistical agencies, including StatsSA and other data collection entities

Other difficulties are less technical in nature and include:

- Absence of a consensus on the definition of the creative economy. (Many governments and international agencies have proposed definitions and these will be discussed below).
- Because of lack of political commitment (or persistent political commitment) statistical collection processes, studies and projects often lose appeal over time. This hampers the evaluation of progress and limits the ability to provide information to make effective and efficient policy and take appropriate decisions.
- There is often internal and external opposition. Many artists, creatives, economists, and politicians dislike the idea of economic analysis of culture. This makes it difficult to validate the results of quantitative analysis of cultural activities.

3.3.9 Using international definitions to derive a South African CCI definition

The international debate relating to the definition of the creative and cultural industries as a sector is ongoing and complex. Different countries providing their own definitions. There is not even consensus internationally. There are five relevant United Nations bodies: UNCTAD, UNDP, Unesco, WIPO and ITC. These and various international organisations provide definitions, and even though they have common elements, they are derived from different angles relevant to their mandates:

- Unesco - from a more cultural and heritage perspective;
- (UNCTAD - from a development perspective; and
- WIPO – from an intellectual property perspective.

Joffe and Newton pointed out that “[i]ncreasingly, the changing DCMS definitions used by the British Council have influenced the South African community of creative-industry researchers, consultants and policy advisors as well as government officials” (2007, 9). However, South African policy documents simply refer to the “Cultural and Creative Industries” and are generally based on the Unesco FCS (2009). Even though the Unesco Framework is broad, it does provide guidance. It is also gaining international recognition; most countries have adapted it to fit their own context and data availability.

As will be debated below, for the development of a South African CCI a consolidated approach used by Unesco and UNCTAD, is adapted for South Africa (See Chapter 4, Section 2).

4 Parameters related to the development of a CCI Index

Although there is no simple solution to the problem of *information overload* as discussed above, the problem can be reduced if less time is focused on collecting as much information as possible and diverted to identifying appropriate and usable information. Often some information is only ‘nice to know’ and does not improve the ability to make appropriate decisions. More time should be spent on collecting quality information, rather than quantity. It is also better to collect or create better information. In other words, more accurate and meaningful information is necessary and this is particularly so in the case of the South African CCIs.

Relevant to this study however, is how to present the information that is collected, especially if there is volume, succinctly and concisely. This is perhaps the most important role of indices or composite number.

4.1 What data to use

The collection of statistics is resource intensive and costly. Official statistic agencies, including StatsSA, have historically not collected cultural data specifically. There are several reasons for this. The first is

when does a product meet the requirements to be classified as such. Cultural and creative products are found in many of the standard industrial classifications. For example, cultural clothes may be used for normal everyday use and it is difficult to describe and therefore separate cultural clothes for normal clothes. Similarly, a designer dress is a creative product. Once it is 'mass' produced, the element of creativity diminishes and the product, although exactly the same as the original, has little creative content.

CCIs have not been specifically included in any of the United Nations' (UN) "System of National Accounts". Definitions for CCIs have also not been a priority in any of the most internationally recognised classifications systems. Nevertheless, some of the data that has been collected is useful. It is important to reiterate that there are many dangers associated with the use of statistics and care should always be taken to understand the source of the data and the purpose for which it originally was created. Further, caution must be taken regarding both the quality and relevance of the data.

These problems are aggravated when trying to compare phenomena internationally using various national sources of data. Unless there are common standards and definitions regarding the data, comparison is problematic. Nevertheless, Madden (2004) states that "[c]ultural policy analysts, researchers and commentators regularly compare cultural sectors and cultural policies between countries, draw policy inferences from one country to another, and make prescriptions and recommendations based on the experiences of 'other' countries." Nevertheless, countries (or sub-national authorities) do try to gain a better understanding of their own situation by comparing themselves and their experiences with other countries (or provinces or regions within a country).

Despite the literature being infused with warnings of the comparability and indeed the quality of cultural data, its use is increasing. There has been a concomitant rise in the production of cultural statistics in several countries. This is making it more realistic to compare 'cultural performance' across national borders. "The adoption of a mixed methodological approach to begin mapping available information and data and to accept the blanks in between could help overcome the existing lacunae. Another fundamental challenge is the lack of both official and independent cultural policy information and data collection infrastructures in many countries" (Unesco 2015, 20).

Data supply issues present the most obvious barriers to developing cultural indices and making cross-country comparisons. "Experience shows that creating a large scale statistical monitoring system is difficult to achieve. This is due primarily to differences in the way definitions of culture are constructed and data is collected (or sometimes not collected)" (Unesco 2015, 20).

4.2 Confirming the rationale for a South African CCI Index

4.2.1 Improving and coordinating policy

Ultimately, the CCI Index will improve policy-making and implementation of CCI-programmes and can be used to assess the efficacy of support provided for the development of CCIs. Better policy and more effective implementation will harness art, culture, and heritage as creative, innovative, educational social development practices with the economic capacities for transforming South Africa into an inclusive society based on actual equality. A CCI Index will contribute to the development of a benchmark that can be used to measure progress over time and across geographic (both international and national) areas.

4.2.2 Towards a "South African State of Culture" report

CCI composite indicators or indices should never be a goal per se, but rather as a starting point for initiating discussion, attracting public interest and concern, informing strategy and policy, and maintaining oversight/ an early warning system. It is therefore recommended that the Department of Arts and Culture produce a "South African State of Culture" report with the input of qualitative data from all stakeholders that can be tabled at Parliament each year.

4.2.3 Contributing to South Africa's socio-economic development

A discussion of the importance of CCI to socio-economic development will help in defining the components of a CCI and the data that is relevant to each component of the index. Culture is simply not only part of the fabric of society (and indeed part of everyone) and contributes to the comfort and enjoyment of life in South Africa, but is increasingly an economic focal point and tool. "Art, culture and heritage are critical mainsprings of innovation and social and economic development based on modes that conserve, renew and expand resources for present and future generations" (South Africa and Department of Arts and Culture 2016, 9).

Culture is therefore essential to South Africa's economic success – and contributes to economic performance and creates wealth. Culture also adds value, it makes an essential contribution to innovation, marketing, design, international relations and social cohesion. The level of creativity substantially determines the ability to adapt to new economic imperatives.

Culture is also a valuable export and an essential component of other commodities. It attracts tourists and students. CCIs can create new jobs with relatively low levels of investment. Further, CCIs have the capacity to generate or regenerate the social fabric of a community through:

- Opening avenues for being productive, self-expressed, and functioning members of society;
- Assisting youth who may be considering or have fallen into the temptation of drugs and crime;
- Helping to bridge social divides; and
- Empowering citizens to become beacons of economic progress.

Policies improving the CCIs is important from both social and economic points of view. Measuring CCIs and having suitable data is essential to inform the development of these policies and programmes.

5 Towards a South African CCI Index

Chapter 3 will review what other countries, regions and organisations have done to develop CCI data and to create CCI indices. The assumptions, problems, and methods they have used will be discussed. Chapter 4 will discuss what data is currently available both in South Africa (both public and private data) and internationally and how these can be used to initiate the development of a South African CCI. A few indices will be constructed with the available data. Chapter 4 will also identify what additional data is necessary and where it could be obtained. Partnerships will also be raised and methods proposed to increase cooperation to expand a CCI database and the CCI Index. These will all be drawn together and a way forward will be recommended in Chapter 5.

Chapter 3: International Practices

1 Introduction

Globally, each country, depending on its cultural and economic specificities, needs to identify creative industries where it has a comparative advantage and its firms have the best competitive advantages in global markets. Despite the need for competition in the marketplace, countries can also learn from each other and adapt other techniques to meet their own requirements. The following section considers best practices emanating from other countries with regard to a CCI Index.

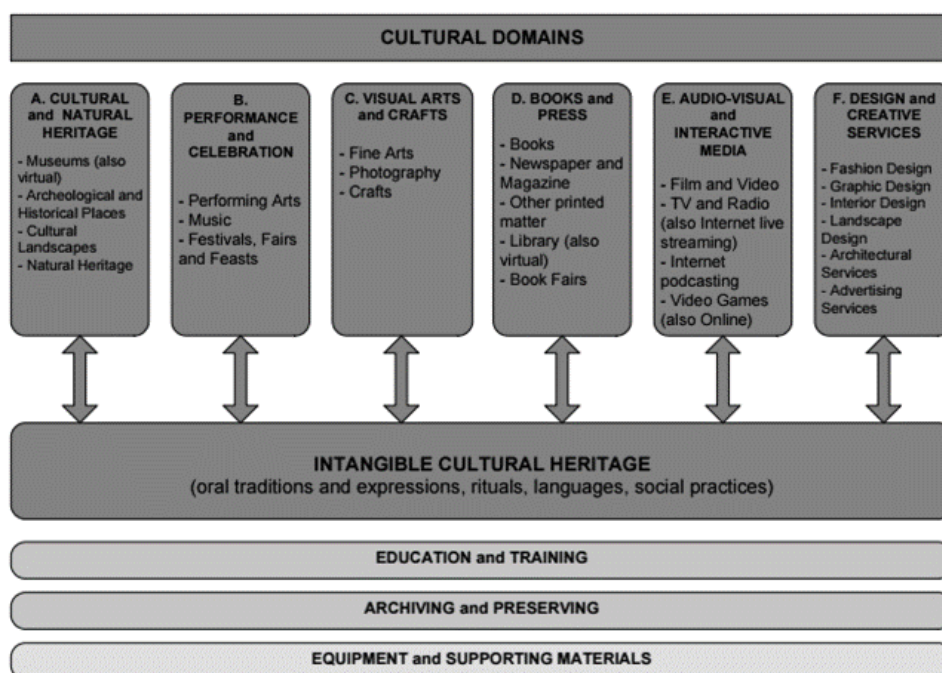
2 International organisations

With the growth of CCIs and increased acknowledgement and interest in their socio-economic importance, Unesco and UNCTAD are two leading international organisations that are particularly interested in doing this. As will be discussed below, Unesco's focus is on heritage and culture, while UNCTAD has a broader developmental agenda. When it comes to intellectual property (IP) and particularly the protection of IP, the WIPO plays an important role.

2.1 Unesco

Unesco's (2017) simplest definition of CCIs is those activities "whose principal purpose is production and reproduction, promotion, distribution or commercialisation of goods, services and activities of a cultural, artistic or heritage -related nature." Unesco (2005) more formally defines cultural industries as "those industries which produce tangible or intangible artistic and creative outputs, and which have a potential for wealth creation and income generation through the exploitation of cultural assets and production of knowledge-based goods and services (both traditional and contemporary)."

Figure 7: Unesco's cultural domains



Source: UNCTAD

What cultural industries have in common is that they all use creativity, cultural knowledge, and IP to produce products and services with social and cultural meaning. Unesco (2005) includes advertising; architecture; crafts; designer furniture; fashion clothing; film, video and other audio-visual production; graphic design; educational and leisure software; live and recorded music; performing arts and entertainment; television, radio and Internet broadcasting; visual arts and antiques; and writing and publishing into the definition of cultural industries. This led to the development of Unesco's Cultural Domains Framework above seeks to classify six domains in which several industries operate, supported by and contributing to intangible cultural heritage, education and training, archiving and preserving, and equipment and supporting materials. South Africa, to a large degree, has incorporated this framework as the definitional starting point for categorising and understanding its CCI, and also for analysis, with a view to 'Africanising' the framework over time.

2.2 UNCTAD

UNCTAD (2004) recognised that national economic achievements are often related to creativity (and information and knowledge). They also recognised the significance of creativity as a generating factor for innovation. UNCTAD (2008a), the United Nations first *Creative Economy Report*, included the description of economic creativity as a dynamic process leading towards innovation in technology, business practices, and marketing. They recognised that this process is the cornerstone of the characteristics of the creative and cultural industries. The report points out that skills for creativity and income from the sale of IP rights are important for all the creative industries activities (i.e. the creation of goods and services, the production and distribution cycle, which requires intellectual capital). UNCTAD (2010) in the second *Creative Economy Report*, looked at the creative economy as a 'feasible development option'. UNCTAD (2008b) defines creative industries as the:

[C]ycles of creation, production and distribution of goods and services that use creativity and intellectual capital as primary inputs. They comprise a set of knowledge-based activities that produce tangible goods and intangible intellectual or artistic services with creative content, economic value and market objectives.

Creative Industries

UNCTAD's (2008b: 13) definition of the creative industries:

- Are the cycles of creation, production and distribution of goods and services that use creativity and intellectual capital as primary inputs;
- Constitute a set of knowledge-based activities, focused on but not limited to arts, potentially generating revenues from trade and IP rights;
- Comprise tangible products and intangible intellectual or artistic services with creative content, economic value and market objectives;
- Are at the cross-road among the artisan, services and industrial sectors; and
- Constitute a new dynamic sector in world trade.

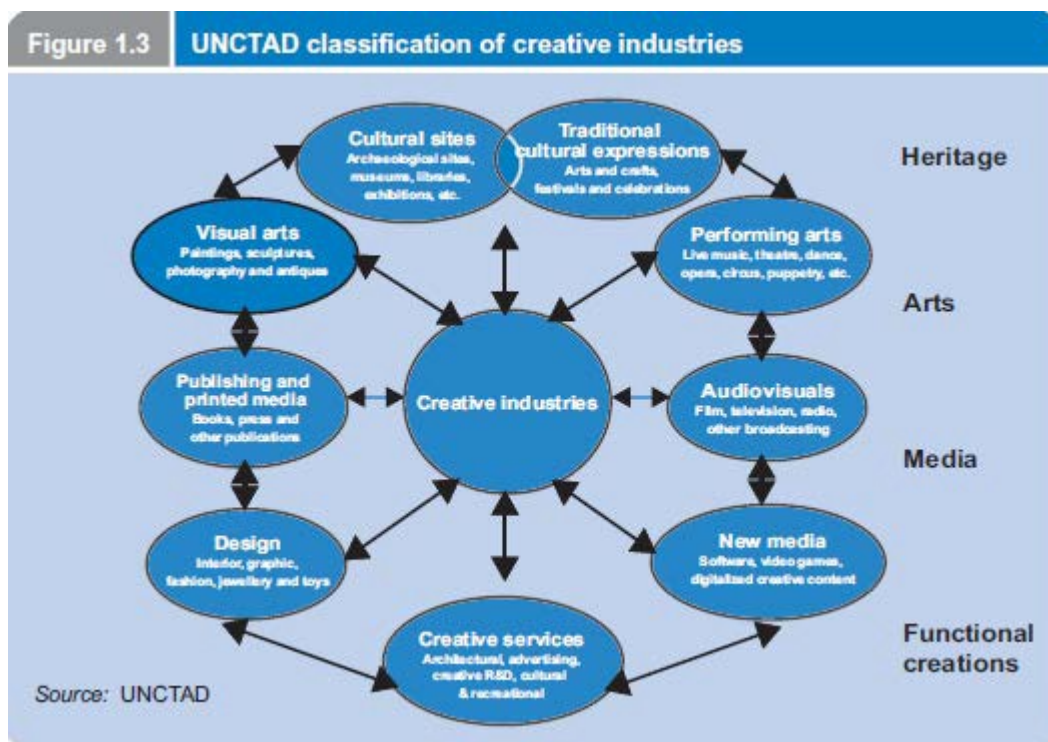
UNCTAD's definition of the creative economy

UNCTAD (2008b: 15) holds that the 'creative economy' is an evolving concept based on creative assets potentially generating economic growth and development:

- It can foster income generation, job creation and export earnings while promoting social inclusion, cultural diversity and human development.
- It embraces economic, cultural and social aspects interacting with technology, IP and tourism objectives.
- It is a set of knowledge-based economic activities with a development dimension and cross-cutting linkages at macro and micro levels to the overall economy.

- It is a feasible development option calling for innovative, multidisciplinary policy responses and inter-ministerial action.
- At the heart of the creative economy are the creative industries.

Figure 8: UNCTAD's cultural domains



Source: UNCTAD (2008b, 14)

UNCTAD states that “[a]s the most important two classifications for cultural statistics, the Unesco and UNCTAD frameworks cover a broader range of product groups than the other methodologies because they aim to provide a universal reference; hence they include both the ‘core’ and ‘optional’ sets of creative/cultural goods” (2010: 111). UNCTAD (2010) lays out a comprehensive overview of what is classified as being creative and cultural goods or services, including the following sub-sectors: heritage; performing arts; visual arts (which is defined to include antiques); publishing and printed media; design (which includes some fashion and design-related functional goods); audio-visual; music; new media; creative services; royalties and license fees; and related industries.

Again, South Africa has accepted elements of the UNCTAD approach in its review of the CCIs. This is a valuable approach as it considers what is designed to represent as closely as possible a universal approach; though, it is important to note that these frameworks are not without critique.

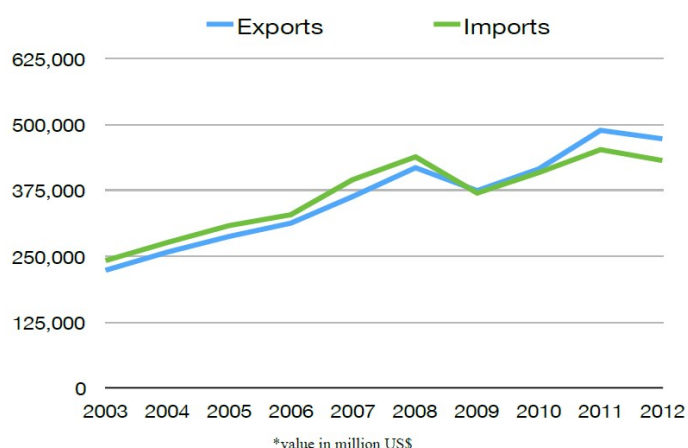
Creative economy trade performance

UNCTAD’s ‘Global Databank on Creative Industries’ is incomplete due to differences in collecting systems and the limited number of countries providing figures for trade in creative services (UNCTAD 2008c). Nevertheless, it is an important move towards market transparency and global baseline data.

Years later, UNCTAD (2016) published ‘Creative economy outlook and country profiles: Trends in international trade in creative industries’ which presents the trends and highlights in international trade in creative goods and services globally, and in 71 countries. It looked at the trade performance of developing and developed countries in key creative industries sectors such as: design, music, film, TV, broadcasting, books, arts crafts and new media. The report’s contents highlighted potential areas

of opportunities for countries, especially developing economies, to increase their production, exports and share in creative industries markets; and would “encourage national and city governments to increase their investment into the production of, and trade in, creative and knowledge-based sectors in support of inclusive and sustained development” (UNCTAD, 2016).

Figure 9: Exports and Imports of Creative Goods Worldwide, 2012



Source: UNCTAD Global database on creative economy

According to the report “[t]he international trade of creative goods has seen sustained growth and expanded strongly in the last decade (see Figure 9). The total exports of creative goods rose in value terms by 47 per cent to \$473,791 million in 2012” (UNCTAD, 2016).

However, when developing an index, both relative and absolute numbers are important. It is therefore necessary to determine whether South Africa is gaining or losing market share to understand how that share can be improved and monitored by a CCI Index.

Trade in goods

Customs-based classifications do not capture the growing volume of cultural goods and especially the high-tech products and digital trade of creative content (Trade Statistics: Goods 2008c). “Given the complexity of making clear distinctions and defining the borderline between a creative good that is exclusive and mass production, between handmade and machine-made, between decorative and functional, etc., this exercise of compiling statistics for creative goods includes all the creative goods with the above characteristics since they fall under the criteria of the UNCTAD classification of the cycle of creation, production and distribution of a tangible product with creative content, economic and cultural value and a market objective”². Therefore South Africa should consider using UNCTAD’s trade database when developing its CCI Index from a goods perspective.

Trade in services

Creative services sectors have shown stronger growth potential during this decade and as the knowledge-based economy expands around the globe, creative services will continue to grow (UNCTAD 2016).

² <http://unctadstat.unctad.org/EN/Classifications.html>

Services³ (BPM6)⁴ includes personal, cultural, and recreational services consist of:

- Audio-visual and related services; and
- Other personal, cultural, and recreational services.

Therefore, South Africa should consider use the CCI components used in the IMF's BPM6 (and further updates) when developing its CCI Index from a services perspective.

Intellectual Property

Creativity is not exclusive to arts, but also to innovation. Innovation is defined simply as a new idea, device, or method. There are several sources of innovation. It can occur as a result of a focused effort by a range of different agents, by chance, or as a consequence of a major system failure. According to OCED "[e]xpenditure on R&D is a key indicator of countries' innovative efforts. R&D comprises creative work undertaken on a systematic basis to increase the stock of knowledge (including knowledge of man, culture, and society) and the use of this knowledge to devise new applications" (2016:152).

UNCTAD notes that the global filing activity for patents and trademarks grew in 2013. The estimated 2.6 million patent applications filed worldwide in 2013 represented a growth of 9 per cent on 2012 (UNCTAD 2016). Nevertheless, the non-availability of data flows for copyrights was a missing link (UNCTAD 2008c).

3 Country CCIs

3.1 Great Britain

The UK's DCMS Model

This model focuses more on the collection of data than the creation of specific CCI Index. It derives from the impetus from the Creative Industries Taskforce was launched in Britain in 1998 to reposition the economy as an economy driven by creativity and innovation in a globally competitive world. 'Creative industries' are defined as those requiring creativity, skill and talent, with potential for wealth and job creation through the exploitation of their IP (United Kingdom Department of Culture, Media and Sport (DCMS), 2001). Virtually all of the 13 industries included in the DCMS classification could be seen as "cultural" in the terms defined earlier; however, the United Kingdom government has preferred to use the term 'creative' industries to describe this grouping, apparently to sidestep possible high-culture connotations of the word 'cultural'.

Arts Index for England

The National Campaign for the Arts (2015) created the Arts Index as a simple and straightforward way of assessing the health of the arts sector and the role it plays in society. The latest edition, which looks at the arts in England from 2007-14. The Index gives a 'headline' indicator of the overall health of the art sector. In 2012/13 the overall Index was 115. In 2013 figure dropped to 110 and rose again to 111 in 2013/14. On their own each of these figures just gives a very broad point of view and a simply indication of a trend.

However, seven elements (shown in figure 10) of the index and their respective indicators are discussed in detail. This allows drilling down to identify where the problem-or growth areas are. The

³ <http://unctadstat.unctad.org/wds/TableViewer/tableView.aspx>

⁴ The sixth edition of the IMF's Balance of Payments and International Investment Position Manual presents revised and updated standards for concepts, definitions, and classifications for international accounts statistics. These standards are used globally to compile comprehensive and comparable data. The manual is available for download at: <http://www.imf.org/external/pubs/ft/bop/2007/bopman6.htm>

index is therefore not only interesting from a headline point of view but also from analytical and policy angles.

Figure 10: Elements of the English Arts Index



Source: The National Campaign for the Arts (2015)

3.2 Australia

Australia has a long history in cultural indicators. In 1994 'Creative Nation: Commonwealth Cultural Policy' was published (Australia 1994). The focus of this policy narrative was narrow and looked at cultural, rather than cultural *and* creative aspects. Indicators were not organised and were provided in the report where they were available. Little was done to delve into the indicators.

In 2007 the Australian Cultural Ministers Council agreed to support the development of a suite of high-level cultural indicators. The intention was to provide periodic reports on the strength of the arts and cultural sector. More important was an analysis of its contribution to economic and social well-being. The report measures the contribution of the arts and culture to Australia using three broad themes: economic development, cultural value, and engagement and social impact. The components of each of these are listed below (Cultural Ministers Council Statistics Working Group and others 2014):

- **Economic development:** cultural value, engagement and social impact; economic development; cultural employment; household expenditure on cultural goods and services; visitor expenditure on cultural goods and services; government support for culture; private sector support for culture; voluntary work in arts and culture; and economic contribution of cultural industries.
- **Cultural value:** cultural assets; talent (human capital); cultural identity; innovation (new work/companies); and global reach.
- **Engagement and social impact:** cultural attendance; cultural participation; access; and education in arts and culture.

Florida's bohemian index influenced the index and particularly the economic development component.

The report does however lament the fact that the "arts and culture as an economic sector is still not well understood" especially how "arts professionals work across the boundaries of commercial and non-profit enterprises" (Cultural Ministers Council Statistics Working Group and others 2014).

3.3 Hong Kong

In 2004, the Hong Kong Special Administrative Region (HKSAR) Government commissioned the Centre for Cultural Policy Research of the University of Hong Kong to devise a framework for a Creativity Index. Hui *et al.* (2005) lists the 5Cs that formed the building blocks of a CI and lists its components:

- Outcomes of Creativity;
- Structural/Institutional Capital;
- Human Capital;
- Social Capital; and
- Cultural Capital.

The CI comprises 88 indicators tabulated from different data sources derived from the World Value Survey and the Creative Community Index study. Hui *et al.* (2005) point out that creative activities generate both economic outputs and "outcomes shared and transacted among the populace". Their framework included economic contribution, inventive activity of economic sector, and non-economic returns of creativity.

Institutional capital included the legal system, corruption, freedom of expression, information and communication technologies infrastructure, social and cultural infrastructure, community facilities, financial infrastructure, and entrepreneurship. Their human capital measures were for R&D and human mobility indicators.

Social capital was quite wide and included generalized trust; institutional trust; reciprocity; sense of efficacy; cooperation; acceptance of diversity and inclusiveness; attitudes towards human rights; attitudes towards foreign immigrants; espousal of modern values; self-expression; participation in politics, and; social participation (voluntary work, barriers to social participation, membership of clubs and organisations and intensity of social contacts).

They measured three broad aspects of cultural capital public sector's and corporations' resources commitment to the development of the arts and culture; measures of cultural norms and values placed on creativity, the arts, art education and IP rights protection; and measures of the extent and level of cultural participation in a community. Indicators included patterns of engagement (such as utilisation, frequency and intensity) in arts and cultural activities.

3.4 New Zealand

New Zealand's Ministry for Culture and Heritage and Statistics New Zealand, has prepared a report Cultural Indicators for New Zealand (2009). Biculturalism underpins community development, education and media and are critical to the development of creative industries, with a particular focus on tourism. New Zealand's cultural indicators framework focuses on identity/place and cultural tourism. It is structured around five themes:

1. Engagement;
2. Cultural identity;
3. Diversity;
4. Social cohesion; and
5. Economic development.

3.5 Canada

Statistics Canada uses a variety of standard classification systems to categorise economic data it collects. This allows data to be meaningfully compared. Statistics Canada (2014) measures the contribution of the CCIs (across creative and cultural sectors including heritage and sport) using the following dimensions:

- Output;
- GDP; and
- Employment.

Table 1: Domains and Sub-domains of the Canadian CSA

A. Heritage and libraries	B. Live performance	C. Visual and applied arts	D. Written and published works	E. Audio-visual and interactive media	F. Sound recording
Core culture sub-domains					
1. Archives: includes archival collections and services.	1. Performing arts: includes live performances by individuals and companies of theatre (incl. musical and dinner theatre), opera, dance, orchestras, music, circuses, magic shows, ice shows, puppet theatre, mime shows, etc. as well as services such as promoters and presenters of performing arts.	1. Original visual art: includes original art such as paintings, drawings, pastels, engravings, prints, lithographs, sculptures and statuary, as well as dissemination services such as commercial art galleries.	1. Books: includes all published content and formats, regardless of delivery platform, including print, audio-books and eBooks, as well as dissemination services such as book fairs, literary festivals, reading series, and related events.	1. Film and video: includes feature films, short films, live action and animated films, documentaries, videos, and interactive movies, in all formats including film, HD, digital, treated and downloaded content, as well as dissemination services such as film festivals and related events.	1. Sound recording: includes sound recording services, record production, record reproduction, and distribution, in all formats, regardless of delivery platform, including on-line digital or downloaded music content.
2. Libraries: includes library collections and services.	2. Festivals and celebrations: includes live performed events, including festivals, fairs and other celebrations with live performances of music, theatre, dance, comedy, improvisation, multidisciplinary events, and services of promoters and presenters of live performed events.	2. Art reproductions: include copies of original visual arts, produced with the use of technology, such as unlimited edition prints, posters, statuettes, and ornaments.	2. Periodicals: includes all published content and formats, regardless of delivery platform, including print, on-line versions, webzines (e-zines), and other digital and electronic publishing and delivery, as well as dissemination services such as magazine fairs and related events.	2. Broadcasting: includes broadcasters and service providers of traditional, pay and specialty radio content; cable, pay and specialty television programming; and Internet-based broadcast content such as podcasts, on-line, streamed, and digital radio and television programs.	2. Music publishing: includes music composition and publishing, in all formats, regardless of delivery platform, including print music, on-line digital or downloaded content, sale of rights for performance, recording, reproduction, and other related rights.
3. Cultural heritage: includes artifacts, collections (incl. antiques) and services such as museums, public art galleries, art museums, historic sites, historic buildings, planetaria, and archaeological sites.		3. Photography: includes traditional still and digital photography services, covering all fields including portrait, wedding, action, and specialty, commercial and industrial services.	3. Newspapers: includes all published content and formats, regardless of delivery platform, including print, electronic, and webbased newspapers, as well as other digital and electronic publishing and delivery	3. Interactive media: includes console games, on-line games, wireless games, and PC games as well as other related interactive digital edutainment products.	
4. Natural heritage: includes collections and services such as botanical gardens, aquaria, zoological sites, and national parks, provincial parks and reserves, conservancy sites, and conservation areas with interpretation.		4. Crafts: includes hand-made artisanal goods from all materials, including textiles, jewellery, pottery, statues, ceramics, furniture, housewares, musical instruments, etc.	4. Other published works: includes published materials (in print or electronic form) such as brochures, leaflets, postcards, greeting cards, and calendars.		

Source: Statistics Canada (2014)

Table 2: Domains and Sub-domains of the Canadian CSA (Continued)

A. Heritage and libraries	B. Live performance	C. Visual and applied arts	D. Written and published works	E. Audio-visual and interactive media	F. Sound recording
Ancillary culture sub domains					
		5. Advertising: includes design and development of advertisements	5. Collected information: includes design and development of catalogues, directories and other publications of copyrighted collected information.		
		6. Architecture: includes residential, nonresidential, landscape and urban design services.			
		7. Design: includes graphic, interior, industrial, jewellery, fashion and other specialty design services.			
			8. Multi sub domain: includes printing of books, art works, calendars, magazines, newspapers; support activities for printing of books, art works, calendars, magazines, newspapers; book, periodical and newspaper wholesaler-distributors and wholesalers; book stores and news dealers; translation services, independent writers and authors.		
Transversal domains					
G. Education and training: Cultural programs offered at educational and training establishments including elementary and secondary schools, community colleges and C.E.G.E.P.S, universities, technical, vocational and trades schools and fine arts schools.					
H. Governance, funding and professional support: Includes grant-making and giving services of culture organizations only (conservation foundations and charitable trusts awarding grants); business, civic and civic and social organizations- culture organizations only ; labour organizations and other membership organizations—culture organizations only (including arts councils); and government entities providing programs related to culture such as federal regulatory services and federal, provincial and territorial and local, municipal and regional public administrations.					
Multi domain: Covers more than one domain and cannot be readily allocated to a single domain. Includes Manufacturing and reproducing magnetic and optical media - reproduction of magnetic and optical media, excluding software (culture content only); Internet publishing and broadcasting, and web search portals- publishers of culture content only; lessors of non-financial intangible assets (except copyrighted works)-owners of cultural trademarks and convention and trade show organizers-craft shows and trade fairs related to culture only.					

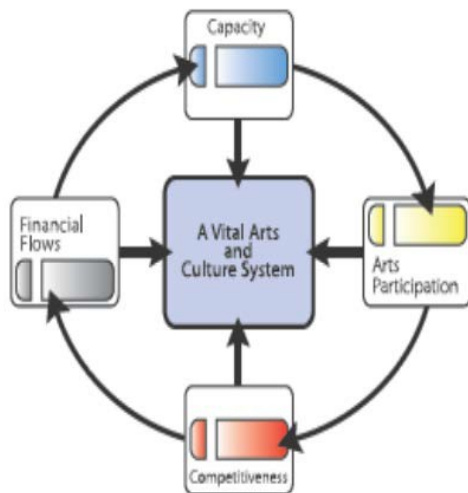
Source: Statistics Canada (2014)

The report presents a logical domain classification (reproduced in Table 1: Domains and Sub-domains of the Canadian CSA) with a discussion on the core, ancillary and transversal domains. The methodology includes concordance tables which explain the transition from Input-Output Industry Codes to the North American Industry Classification System. While this might be peculiar to the North American region, the relationship between I-O and industry classifications can be used as a classification example.

3.6 The USA

Various American agencies collect CCI information, particularly focusing on the economic dimensions. As with the Unesco Framework (2009), two domains are defined, the first is the “core arts and cultural production” the second is the “supporting arts and cultural production.” However, closest to the CCIs is the National Arts Index (2013), which measures the vitality of arts and culture in the USA using a ‘Balanced Scorecard’ (see Kaplan and Norton (1995) approach.

Figure 11: Elements of the America’s National Arts Index 2013



Source: The National Campaign for the Arts (2015)

They look at four dimensions:

1. **Financial Flows** include private and public support to institutions, pay of individual artists, and revenues of arts businesses and nonprofits. All of these are payment for artistic services and provide fuel for capacity to produce arts activities and experiences for arts audiences.
2. **Capacity** indicators measure stocks of institutions, capital, employment, and payroll levels in the arts and culture system. Capacity and infrastructure transform financial flows into arts activities.
3. **Arts Participation** indicators measure actual consumption of those activities, which may be in the form of goods, services, or experiences.
4. **Competitiveness** indicators illustrate the position of the arts compared to other sectors in society, using measures of market share and economic impact.

The Balanced Scorecard approach is often used as a Monitoring and Evaluation (M&E) tool. It moves the focus away from simple financial indicators to ‘softer’ issues. Therefore when it comes to M&E in South Africa, including some of the dimensions used The National Campaign for the Arts (2015) can be used in both M&E and the CCI Index.

4 Comparing CCI indices

Composite indicators (both the domains and the dimensions) measuring CCIs internationally (across countries) as well as sub-nationally (province or municipal) should be well-defined. The measured entity (a country or a sub-national unit) should be chosen with caution since the quality and availability

of the data (even at the country level) is limited. The standards and definitions used must be compatible.

5 Regional or city CCI

The creative economy concept has been applied specifically to the economy of cities – and national and international CCI initiatives have attempted to develop sub-national CCI indices that can be used to evaluate regional dimensions of the sector. There is real relevance in this approach for the South African context as there are several cities and small towns that thrive on the creative economy. For example, Cape Town was Design Capital of the World in 2014 and is a film node; Johannesburg is well known for its galleries and heritage capital. Smaller towns are also increasingly building micro-economies off the back of a combination of creative, craft, food and tourism offerings (Crozier, et al, 2016).

5.1 The creative city

The concept of a “creative city” has become important in local economic development especially after Charles Landry and Richard Florida (2002, 2005, 2008, 2010). This term describes an urban complex where cultural activities of various sorts are an integral component of the city’s economic and social functioning. Such cities tend to be built upon a strong social and cultural infrastructure, to have relatively high concentrations of creative employment, and to be attractive to inward investment because of their well-established cultural facilities. Hartley (2009: 208) describes it best:

So the creative industries are important because they are clustered at the point of attraction for a billion or more young people around the world, and are the generative edge of urban, economic and human growth alike. They are among the drivers of demographic, economic and political change. They start from the individual talent of the creative artist and the individual desire and aspiration of the audience. These are the raw materials for innovation, change and emergent culture, scaled up to form new industries and coordinated into global markets based on social networks.

Landry (2000), in his seminal work on the concept of the creative city, argues that cities have one crucial resource: their people. Creativity is replacing location, natural resources and market access as a principal key to urban dynamism. He points out that:

Today many of the world’s cities face periods of transition largely brought about by the vigour of renewed globalization. These transitions vary from region to region. In areas, such as Asia, cities are growing, while in others, such as Europe, old industries are disappearing and the value added in cities is created less through what is manufactured and more through intellectual capital applied to products, processes and services (Landry, 2000).

Florida (2002) argues that dynamic fast-growing city-regions are those that manage to attract and keep creative workers and entrepreneurs. Florida’s framework consists of the 3Ts:

- Talent;
- Technology; and
- Tolerance.

He argues that cities must focus on capturing the imagination of talented individuals rather than concentrating solely on building infrastructure or industrial locations. He asserts that metropolitan regions with high concentrations of technology workers, artists, musicians, lesbians and gay men, and a group he describes as ‘high bohemians’, exhibit a higher level of economic development. The

creative class fosters a conducive environment that attracts more creative people, as well as businesses and capital.

Growth increasingly depends on the collective and cooperative creative capacities of the people who live and work cities or regions. The accumulation and use of knowledge cause productivity gains that leads to innovation and new products or services, new industrial processes, and new, more efficient forms of organisation. These factors underlie productivity growth. Conventional drivers of regional development such as efficient infrastructure and an educated workforce and are not considered drivers but rather *sine qua non* conditions for economic development. He offers a three-class model of the advanced industrial economy, based on labour force location:

- The traditional working class;
- The service class; and
- The creative class (made up of ‘the super-creative core’ and ‘the creative professionals’).

He identifies several magnets that contribute to the attraction of the creative class including lifestyle, social interaction, social diversity, authenticity, and identity. These factors determine ‘the quality of place’. Florida (2003) builds on this and recognises that cities and regions have been seen as melting pots of diversity and as sources for creativity and innovation. He tried to shift the focus away from the firm and focuses on diversity and creativity as basic drivers of innovation and regional and national growth. The definition of creativity used in Florida’s index is relatively broad, extending well beyond the so-called creative industries (e.g. arts, culture and entertainment).

To identify areas that met the criteria he developed a set of indices:

- The creative class index
- The innovation index
- The high-tech index
- The diversity index (also called the gay index)
- The Bohemian index
- The talent index; and
- The melting pot index.

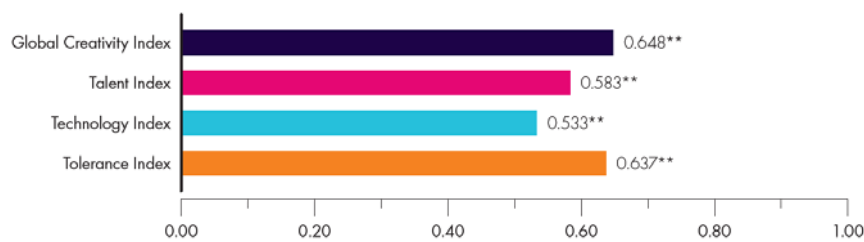
From these indices, he proposed a composite index, the Creativity Index that merges the four equally weighted indices: the innovation index, the high-tech index, the gay index and the creative class index. The focus of these indices focuses on outcomes rather than outcomes. The theoretical foundations are debatable and focus on new creative products and services. The data may also be difficult to obtain. Nevertheless as discussed below in the Global Creativity Index uses some of these concepts and has been compared across several countries and may therefore be more useful for South Africa rather than Florida (2003).

5.1.1 Global Creativity Index

Florida *et al.* (2015) later developed the Global Creativity Index (GCI) which they describe as a “broad-based measure for advanced economic growth and sustainable prosperity based on the 3Ts of economic development— talent, technology, and tolerance”. The GCI ranks 139 nations on each of dimension and aims to provide an overall measure of creativity and prosperity.

Based on this they show a relationship between the GCI and the standard measure of economic output (GDP per capita). Further, they find that the GCI and each of the 3Ts are positively associated with economic output per capita. Tolerance has the strongest association of the 3Ts (with a correlation of 0.64), followed by talent (0.58) and technology (0.53). However, the combined effect of all 3Ts working in unison gives the strongest correlation (the GCI overall (0.65).

Figure 12: Correlation of the indices with GDP per Capita



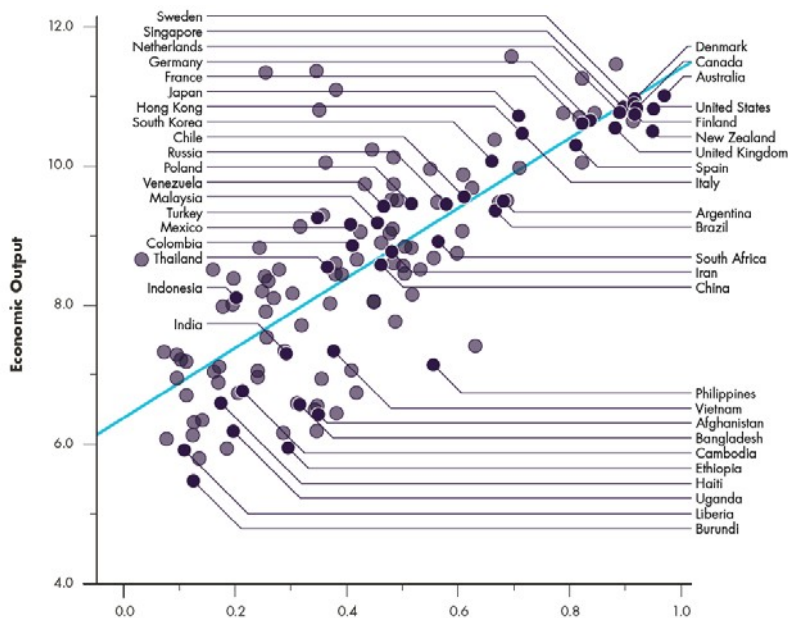
Source: Florida *et al.* (2015, 25)

Note: ** indicates significance at the 1 percent level, * indicates significance at the 5 percent level

From the graph below (figure 13), the fitted line slopes strongly upward, indicating the positive relationship between the two. Developed economies are in the upper right section of the graph, while less developed countries with a lower GDP per capita are in the lower left section. This implies that creative economies are more productive and have a higher standard of living (as measured by the GDP per capita) than less creative economies. The graph however does not explain causation, but merely correlation.

From the graph below, the countries below the fitted line, are less reliant on Florida's definition of creativity. South Africa's "creativity" does not translate into economic well-being. The deviation, however, is relatively small and can be attributed to several other factors. Nevertheless, research on why this deviation is there needs to be examined further to ensure that policies work in a coordinated fashion and that there are no other factors that need to be addressed.

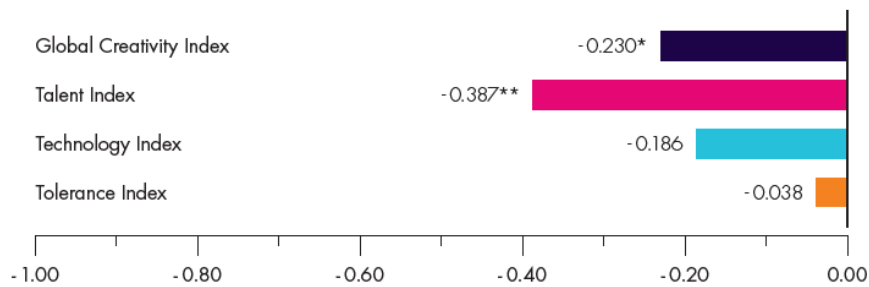
Figure 13: GCI Correlation with GDP per Capita



Source: Florida *et al.* (2015, 25)

Perhaps one of the reasons that South Africa is performing below its potential is because of the inequality. As can be seen in the figure below there is a negative correlation between the indices and equality. The more unequal societies are, the less creative they will tend to be.

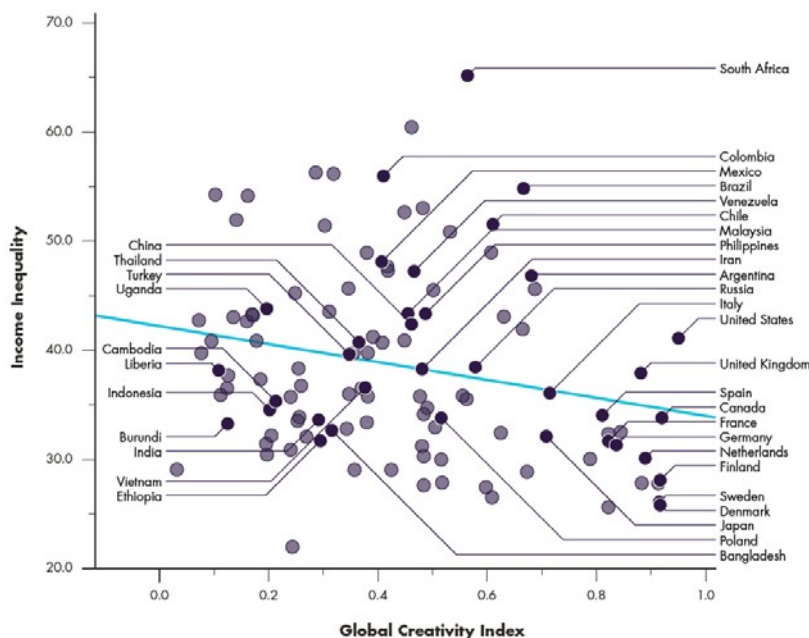
Figure 14: Correlation of the indices with GDP per Capita



Source: Florida *et al.* (2015, 33)

However, given the level of inequality, South Africa has a relatively high Creativity Index. The graph below shows the relationship between creativity and inequality across nations.

Figure 15: GCI Correlation with economic inequality correlations



Source: Florida *et al.* (2015, 33)

Australia takes the top spot on the GCI followed by the United States in second, New Zealand third, and Canada fourth. Denmark and Finland are tied for fifth. Sweden, Iceland, Singapore, and the Netherlands round out the top ten. Brazil, Russia, India, China, and South Africa (BRICS) continue to struggle. Brazil fares best, ranking 29th, South Africa second at 38th spot, Russia ranks 39th, China 62nd, and India 99th. South Africa was ranked 30th for Technology, 62nd for Talent, and 57th for tolerance.

The data used by Florida *et al.* in this study are included in Appendix C.

5.1.2 CCI-CCI Creative City Index 2012

Hartley *et al.* (2012a) developed a 'Creative City Index toolkit' for the municipal government of Beijing. The aim of the index was benchmark domestic and international creative cities and allow comparison. This, it was hoped, would promote "policy settings that will cultivate a creative and cultural

environment of world-class standing”. The strategic aim of the index was to transform Beijing into a leading global creative city.

Hartley *et al.* (2012a, 12) uses 16 index dimensions: cultural tourism; creative industries; cultural capital; venues; liveability; transportation; globalisation; openness; human capital; social capital; government; business and economy; entrepreneurship; innovation and research technology and ICT; and environment in the “City Index”. Their CCI Index comprises of eight main dimensions, with 72 components and over 250 individual data points. The eight dimensions:

1. Creative industries scale and scope;
2. Micro-productivity;
3. Attractions and economy of attention;
4. Participation and expenditure;
5. Public support;
6. Human capital;
7. Global integration; and
8. Openness, tolerance and diversity.

Their index is calculated and presented as unweighted, in that the summation weights given to each of the eight index components are equal.

It is not recommended that all the dimensions of this index be incorporated initially into the South African CCI Index, but should be considered when developing sub-national CCI indices.

5.1.3 Sharpie’s Creativity Index

Sharpie’s Creativity Index is more narrowly focused on cultural rather than scientific or innovative creativity. It also develops measures of creative subcultures. The index uses the following quantitative and qualitative criteria:

- Creative **output**, including numbers of residents employed in the creative;
- Industries, numbers of self-employed residents, and awards for creativity;
- Creative **funding**, measuring financial investment in creativity;
- Sexual, racial, and cultural **diversity**;
- The existence of thriving **subcultures**;
- **Sustainability**, an emerging cornerstone of modern creativity;
- **Cost of living** – this is important because creative industries tend to be low-paid;
- **Creative consumption** (festivals, fairs, museums, and galleries); and
- Education and technology.

This index is more narrowly directed towards cultural dimensions rather than the broader scientific or innovative creativity components of CCIs. This may be too narrow for South Africa’s purposes but its dimensions should be considered to be included in the South African CCI Index.

5.1.4 Creative Communities Index

The Silicon Valley Creative Communities Index (2005) assesses Silicon Valley’s technological and business innovation sustainability. Central to this index is how people live together as a community, collaborate and solve problems, is creativity. These problems include social cohesion, urban form, transportation, education, and environmental issues. The indicators are grouped into four categories:

1. Outcomes
2. Participation
3. Assets
4. Levers.

Outcomes measures the health of cultural life, broad-based creativity, social connectedness among diverse people and contribution to the quality of life in Silicon Valley. **Participation** measures the region's residents' participation in arts and cultural activities, including the extent to which diverse people participate together. The mix of cultural assets present in the community, including talent in the creative sector (non-profit, public, and private), venues and facilities, and the aesthetic quality of our environment are measured under **assets**. Importantly, **levers** measures the building cultural assets and encouraging interaction with them through arts education, leadership, investment, and policies.

Interviews with residents to gain an understanding of what they think about arts and culture in the region is used to construct the index. This provides comprehensive information but is costly.

This index is more narrowly directed towards technological dimensions rather than cultural components of CCIs. The dimensions used is similar to the National Campaign for the Arts (2015) and Balanced Scorecard approach. Therefore when the South African CCI Index is used for M&E some of these dimensions must be considered. Since it is also more in the sphere of science and technology, the Department of Science and Technology should be approached to participate in the development of the South African CCI Index and can take responsibility for many of the domains and dimensions.

5.1.5 Creative Vitality Index

The focus of this index is on participation and measures the health of a creative economy relative to a national benchmark according to arts-related participation and employment. The data streams used in this index include:

- Revenue from non-profit arts organisations;
- Earnings from for-profit arts-related businesses; and
- Employment numbers for arts-related jobs.

Components are weighted 60/40 – 60% from seven indicators of community participation in the arts and 40% from arts-related employment in more than 30 professional categories.

Seven measures indicate community participation in the arts:

- Per capita art gallery and individual arts sales;
- Per capita performing arts revenue;
- Income from other non-profit 'arts active' organisations;
- Per capita musical instrument and supply store sales;
- Per capita photography store sales;
- Per capita book and record store sales; and
- Income from non-profit arts organisations.

Arts-related employment covers 36 professional categories and includes actors; advertising and promotions managers; agents and business managers of artists, performers, and athletes; architects; art directors; audio and video equipment technicians; broadcast technicians; camera operators; television, video, and motion picture; choreographers; commercial and industrial designers; dancers; editors; fashion designers; film and video editors; fine artists including painters; sculptors, etc.

To test the value of the CVI for local policy makers, ArtsWA in 2010 began offering small grants to fund community projects that used the CVI data.

From a local economic development (LED) perspective the Creative Vitality Index would be relevant. "Artists, because of their typically lower incomes, usually need to seek out less expensive, developing neighbourhoods where they can afford the rent. But because of their creativity they are able to fix up these areas, eventually attracting hip boutiques, galleries, and restaurants."⁵ Metropolitan areas may

⁵ Roney, M. Bohemian Today, High-Rent Tomorrow, Feb. 26, 2007. BusinessWeek.com, accessed Nov. 18, 2013.

therefore wish to develop indices (in collaboration with DST and SACO) that will show how CCIs can be used for LED in general and inner city regeneration in particular.

5.2 Summary of indices

Hartley (2012b, 36) provides a useful summary of the dimensions that are used in the various city creative indices.

Table 3: Checklist of City Index Dimensions and Indicators

City index checklist	Culture, recreation, and tourism	Creative output, employment	Cultural capital, participation	Venues, resources, facilities	Liveability, amenities	Transport, accessibility	Globalisation, networks, exchange	Openness, tolerance, diversity	Human capital, engagement, support	Social capital, engagement, support	Government, regulation	Business activity, economy	Entrepreneurship	Innovation, R&D	Technology, ICT	Environment, ecology
Creativity and culture																
Florida's Creative City Index								✓	✓					✓		
The Euro-Creativity Index								✓	✓					✓		
Czech Creativity Index								✓	✓					✓		
Sharpie's Creativity Index	✓	✓	✓		✓			✓	✓						✓	✓
Creative Communities Index	✓	✓	✓	✓					✓						✓	
The Creative Vitality Index		✓	✓													
European Creativity Index	✓	✓	✓					✓	✓		✓				✓	
Hong Kong Creativity Index	✓	✓	✓	✓											✓	
Cultural Life Index	✓	✓	✓	✓											✓	
Composite Index of the Creative Economy								✓	✓				✓	✓	✓	
Design, Creativity and Innovation Scoreboard			✓					✓	✓					✓		
The Global Power Cities Index	✓				✓	✓						✓		✓		✓
Global Cities Index	✓			✓		✓	✓	✓	✓		✓	✓			✓	
Global City Indicators Facility	✓	✓	✓		✓	✓		✓	✓	✓	✓	✓		✓	✓	✓
Fundamental and Flow Index	✓				✓	✓	✓	✓	✓				✓	✓	✓	
Globalisation and World Cities Index		✓					✓									
The Shift Index							✓	✓	✓		✓	✓	✓		✓	
World Knowledge Competitive Index									✓			✓	✓	✓	✓	
Information Society Index															✓	
Other Approaches																
• Oslo Manual														✓	✓	
• Creative Grid	✓			✓	✓		✓	✓	✓				✓		✓	
• Landry's Index					✓		✓	✓	✓		✓		✓			

Source: Hartley (2012b, 36)

Although the list of dimensions, South Africa should include other dimensions that are important socio-economically. Transformation and broad-based black economic empowerment inter alia need to be considered.

6 Conclusion

Several approaches have been taken to developing CCI indices. In most cases, compound indices were used to capture various CCI indicators and to present them in a simple easy to follow format. The choice of which indicators were selected depended largely on the philosophical approach adopted by the creators. Basically, two main approaches were used. Firstly, to use the index as a lobbying tool and to create awareness of the state of CCI and what their contribution to socio-economic development is. The second approach was to identify drivers and outcomes and to get an understanding of the causal relationships without necessarily building models.

In most of the indices two dimensions are generally identified. Firstly, what domains are to be included and what are the components of each domain. Secondly, what dimensions are being collected for each domain. In some cases, the availability of data was also a driver of the components of the relevant CCI Index. It is important that the same data be collected over time or in different regions. The importance of data quality is critical.

Chapter 4: Data for South African CCI Indices

1 Introduction

As can be seen in the discussions above, there is no universal approach to CCIs nor is there right or wrong model. There are simply different ways of construing the characteristics of CCIs. Depending on the analytical purpose, the choice of the various models may therefore be different.

From the viewpoint of statistical data collection, however, a standardised set of definitions and a common classification system are needed as a basis for designing a workable framework for dealing with the creative industries within the larger standard industrial classification systems that apply across the whole economy.

In South Africa, with the categorisation and ‘counting’ of cultural industries, special attention should be paid to capacity recognition and capacity building, empowerment, equitable distribution of opportunities and revenue for the lowest income communities in both urban and rural areas, and in both formal and non-formal sectors of society.

2 Domains

To ensure compatibility, it is necessary that as far as possible data should be compatible. This also applies to the domains. As discussed above, UNCTAD’s approach is more developmental and Unesco focuses on heritage and culture. WIPO’s definition is too narrow since it focuses on copyright products and industries. It would appear (considering the National Development Programme) that UNCTAD’s approach would best meet South Africa’s needs. The UNCTAD domains were nevertheless compared to Unesco’s and a few amendments were made.

It is proposed that the following domains therefore be used to develop the South African CCI Index:

Heritage

- Traditional cultural expressions
 - art crafts
 - festivals
 - performances & celebrations
- Cultural sites
 - Archaeological & heritage sites
 - museums
 - libraries
 - exhibitions
 - cultural villages
 - precincts

Arts

- Visual arts
 - painting
 - sculpture
 - photography
 - antiques
 - ceramics

- public art
- crafts
- multi-media
- Performing arts
 - live music
 - theatre
 - dance
 - opera
 - circus
 - puppetry

Media

- Publishing and printed media
 - books
 - press
 - other publications
- Audio-visuals
 - film
 - television
 - radio
 - other broadcasting

Functional Creations

- Design
 - interior design
 - graphic design
 - fashion
 - jewellery
 - toys
- New media
 - software development
 - advertising
 - cultural and recreational
 - creative research and development (R&D)
 - digital and other related creative services
- Creative services
 - architectural
 - advertising
 - cultural and recreational
 - creative R&D
 - digital and other related creative services

Other (From Unesco Domains)

The following domains and sub-domains are not specifically included in UNCTAD's domains, but could be included in the South African definition of domains and sub-domains.

- Cultural and natural heritage
 - cultural landscapes
- Visual arts and crafts
 - crafts
- Books and press
 - book fairs
- Design and creative services
 - landscape design

3 Dimensions

Again, there are several dimensions that must be included. The initial focus of the South African CCI Index will be on the economy and these issues are discussed below. Based on the discussion above, it is proposed that the following be included:

Table 4: Indicative dimensions for a South African CCI Index

Domain	Dimension
Economy	GDP: GVA
	Output
	Employment
	HH Expenditure
	Export
	Import
Education	Inclusive education
	Multilingual
	Arts
	Professional training
Governance	Standard-setting framework
	Policy and Institutional framework
	Infrastructure
	Civil society and governance
Social	Going-out participation
	Identity-build participation
	Intercultural trust
	Self-determination
Gender	Gender-equity outputs
	Perception of gender equality
Communication	Freedom of expression
	Internet use
	Diversity of media
Technology ⁶ - access, availability, use	
Heritage ⁷	

These dimensions and their components are subject to debate and certain elements may be need by different stakeholders. If a single database is developed, it is possible to construct sub-indices if these are required. Dimensions are not as sensitive to change (once they have been established) as are the domains.

⁶ The factors that may be included under the technology heading are included in Appendix E

⁷ The factors that may be included under the heritage heading are included in Appendix F

Data is problematic and will take some time to collect. The approach to this challenge is discussed in Chapter 5.

4 Potential Data for a Cultural index

The data presented below are publicly available data that could potentially be considered for inclusion into a cultural index.

4.1 Available data in South Africa

This section discusses available data sources that already exist that can be utilised to produce a cultural index. The table below provides an overview of the data followed by a brief description of the data source. Typical sectors are provided as an example for each source that can be considered. Only data that is at least available on an annual basis are considered for the index. Consequently, data from the following cannot be used:

- Large sample surveys;
- Income and expenditure;
- Living conditions survey; and
- Census and Non-profit institutions satellite account.

Table 5: Potential data sources that can be used in the CSA

Survey/administrative data	Coverage	Frequency	Demand or supply side data	Conducted by whom	Classification
Quarterly Financial Statistics	+ 5 000 large enterprises	Quarterly	Supply side	Stats SA	SIC 1993 ⁸
Quarterly Employment Statistics	20 000 private and public enterprises in the formal non-agricultural sectors	Quarterly	Demand side	Stats SA	SIC 1993
Annual Financial Statistics	12 922 enterprises ⁹	Annually	Supply side	Stats SA	SIC 1993,
General household survey	25 363 households	Annually	NA	Stats SA	NA
Quarterly Labour Force Survey (QLFS)	+ 30 000 dwellings	Quarterly	Employment/demand	Stats SA	-
TSA	-	Annually	Supply and demand	Stats SA	CPC ¹⁰
Capital expenditure by the public sector	National; Provincial; Municipalities; Public Corporations; Higher education; Extra Budgetary	Annually	Supply	Stats SA	SIC 1993
Supply and Use Tables (SUT)	62 industries by 104 products; 171 industries by 104 products	Annually Periodically	Industry supply and demand	Stats SA	SIC 1993, CPC
Quarterly employment statistics	20 000 formal non-agricultural business	Quarterly		Stats SA	SIC 1993
Financial statistics of consolidated general government	-	Annually	Supply	Stats SA	-
National Treasury, Budget Vote data	Budgeted and actual expenditure data	Annually	Supply	National Treasury	-
Trade data	Approximately 5300 at six-digit level	Monthly	Import (demand) Export (supply)	SARS	HS ¹¹

Source: Author's own compilation

⁸ Standard Industrial Classification of all economic activities, 5th edition

⁹ 2014 Annual Financial Statistics (AFS) - includes all large enterprises

¹⁰ Central Product Classification (version 2)

¹¹ The Harmonised Commodity Description and Coding System generally referred to as "Harmonised System" or simply "HS" is a multipurpose international product nomenclature developed by the World Customs Organization (WCO).

4.2 StatsSA's Quarterly Financial Statistics

This survey covers a sample of approximately 5 000 enterprises (including all large enterprises) that are operating in the formal non-agricultural business sector and excludes financial intermediation, insurance, and government institutions. Results of the survey are used in compiling estimates of the GDP and its components. Potential sectors that can be considered are:

- SIC 882 Architectural, engineering and other technical activities.
- SIC 96 Recreational, cultural and sporting activities.

4.3 StatsSA's Quarterly Employment Statistics

The quarterly employment statistics (QES) is a survey covering a sample of approximately 20 000 VAT registered private and public enterprises in the formal non-agricultural sector. The information is used as inputs to the GDP and to estimate key economic statistics on average monthly earnings that are mainly used for monitoring economic indicators of the SA economy. The data covers the number of employees and gross earnings. Potential sectors that could be useful are:

- SIC 882 Architectural, engineering and other technical activities.
- SIC 96 Recreational, cultural and sporting activities.

4.4 StatsSA's Annual Financial Statistics

The AFS provides supply data of cultural activities. The AFS is published by Stats SA on an annual basis in November each year, and it is used in the annual calculation of the GDP. The 2014 AFS is for example based on a sample of 12 922 enterprises that was drawn from the total enterprise population (that is obtained in cooperation with the South African Revenue Services (SARS)). According to Stats SA, all enterprises are first stratified by the predominant type of activity (according to Standard Industrial Classification (SIC) codes) then by size, using turnover as a measure of size. All enterprises in the size group representing the largest enterprises according to turn over were selected; simply a census of large companies and not just a survey. These large enterprises account for approximately 41% of the total sample. For medium and small enterprises, samples are drawn by randomly selecting the allocated number of enterprises within these groups and each industry. The AFS data excludes agricultural activities, selected financial activities, and the general government. The 2014 AFS consists for example of 299 industries (290 disaggregated and nine aggregated). The AFS provides financial data on income items, inventories, expenditure items, profit/loss, tax and dividends and assets and liabilities. Typical sectors (or part thereof) that can be considered are:

- Photographic activities (SIC 8894);
- Dramatic arts, music and other arts activities (SIC 9614);
- Library and archives activities (SIC 9631);
- Museum activities and preservation of historical sites and buildings (SIC 9632);
- Botanical and zoological gardens and nature reserve activities (SIC 9633);
- Motion picture and video production and distribution (SIC 9611); and
- Sporting activities (SIC 9641).

4.5 StatsSA's General Household Survey (GHS)

The GHS presents the results of the survey conducted annually by Stats SA since 2002 of South African households. The survey collects information on a variety of subjects including education, health, the labour market, dwellings, access to services and facilities, transport, and quality of life. The survey replaced the October Household Survey which was introduced in 1993 and was terminated in 1999. Potential data include:

- Radio ownership
- TV set
- Internet in a library/ community hall/Thusong centre

4.6 StatsSA's Quarterly Labour Force Survey (QLFS)

The QLFS is a household-based sample survey conducted by Stats SA. It collects data on the labour market activities of individuals aged 15 years and above who live in South Africa. The survey sample is of approximately 30 000 dwellings in which households reside. This data can provide insight into employment (Stats SA 2016b). Typical industries that can be considered include for example:

- Motion picture, radio, television, and other entertainment activities,
- Library, archives, museums, and other cultural activities,
- Sporting and other recreational activities.

The survey also provides estimates on industry and occupation of the labour force.

4.7 StatsSA's Tourism Satellite Accounts (TSA)

The TSA (Stats SA 2016c) quantify cultural services as one of its 'characteristics products'. This is expressed in terms of domestic demand, international demand (exports), total domestic supply and tourism spending abroad (imports). The first five digits correspond to the CPC Version 2.0 code, and the sixth digit is used exclusively for the TSA.

Cultural services include:

- Performing arts
 - Performing arts facility operation services (96230.0)
 - Services of performing artists (96310.0)
- Museum and other cultural services
 - Museum services except for historical sites and buildings (96411.0)
 - Preservation services of historical sites and buildings (96412.0)
 - Botanical and zoological garden services (96421.0)
 - Nature reserve services including wildlife preservation services (96422.0)

4.8 StatsSA's capital expenditure by the public sector (P9101)

This survey contains results of the capital expenditure by public sector institution and reflects only the aggregates of the institutions which responded to the survey. The survey covers the annual financial year and covers 41 national government departments, 124 provincial government departments, 278 local government institutions, 48 public corporations, 25 higher education institutions and 233 extra-budgetary accounts and funds. The Public Sector Classification Committee (PSCC) is responsible for the classification of all public entities.

The capital expenditure refers to any expenditure incurred in or incidental to the acquisition or improvement of land, buildings, engineering structures and machinery and equipment. The expenditure normally confers a lasting benefit and results in the acquisition of, or extends the life period of a fixed asset.

Capital expenditure includes spending on vehicles, office furniture and equipment, but excludes minor items that are generally regarded as being expandable even though in some instance their useful lives may extend beyond one year.

Below is an example of cultural related extra-budgetary capital expenditure.

Table 6: Example of Extra-budgetary capital expenditure

No.	Name	Total Actual Capital expenditure	
		2014 R'000	2015
4	African Renaissance And International Co-Operation Fund	0	0
5	Afrikaanse Taalmuseum	307	66
10	Albert Luthuli Museum	393	197
11	Armscor	75 010	24 050
12	Artscape	16 619	1 895
19	Cape Nature Conservation	12 771	27 805
24	Commission for the Protection of The Rights of Cultural, Religious and Linguistic Communities	653	1 190
40	Cradle of Humankind	663	0
42	Culture, Arts, Tourism, Hospitality and Sport SETA	591	906
43	Dinokeng	0	0
52	Eastern Cape Parks and Tourism Agency	19 016	33 409
53	Eastern Cape Provincial Art and Culture Council	11	2
57	Engelenburg Art Collection	0	0
61	Ezemvelo KZN Wildlife	39 705	57 413
64	Film and Publication Board	2 339	1 833
75	Gauteng Film Commission	180	282
78	Gauteng Tourism Authority (Board)	420	667
83	Greater St.Lucia Wetlands Park Authority (Isimangaliso)	5 143	29 212
97	ISETT_ New Media Information and Comm Technologies SETA	1 334	4 387
98	Iziko - Museums of Cape Town	934	1 582
100	Kwazulu-Natal Tourism Board	428	1 087
101	Kwazulu-Natal Sharks Board	19 207	5 868
106	Limpopo Tourism and Parks Board	19 284	48 325
107	Mabana Arts, Culture and Sport Foundation	397	1 040
118	Mpumalanga Tourism and Parks Agency	22 133	50 074
119	Msunduzi/Ncome Museum	242	1 431
122	Natal Museum	522	406
124	National Arts Council of South Africa	467	563
133	National Film and Video Foundation	1 928	4 210
138	National Library of South Africa	7 023	2 234
142	National Museum	1 802	1 712
152	Nelson Mandela Museum	208	4
154	North West Parks Board & Tourism	10 384	34 654
157	Northern Cape Tourism Board	161	81
158	Northern Flagship Institution (Ditsong Museum)	2 697	1 211
162	Pan South African Language Board	912	148
164	Performing Arts Centre of the Free State (PACOFs)	5 537	5 099
183	Robben Island Museum	1 380	2 292
187	South African Tourism Board	11 035	10 140
197	South African Heritage Resources Agency	1 502	643
199	South African Library for the Blind	183	710
204	South African National Biodiversity Institute	24 599	34 179
206	South African National Parks	209 698	313 702
215	State Theatre, Pretoria	8 853	10 812
225	War Museum	46	283
228	Western Cape Cultural Commission	0	0
230	Western Cape Heritage	0	0
232	Western Cape Language Committee	0	0
234	William Humphrey's Art Gallery	1 746	1 160
	Total of potential cultural capital expenditure	528 463	716 964
	Percentage of total extra-budgetary	4.1%	5.3%
	Total extra-budgetary	12 855 947	13 402 479

Source: Own calculations from National Treasury publications

4.9 StatsSA's Supply and Use Tables

Supply and Use tables (SUT) are the cornerstone of the System of National Accounts (SNA). SUTs provide a coordinating framework for checking both the accuracy and the consistency of the data contained in National Accounts. One of the many other uses of the SUTs is that they can be extended to Satellite Accounts (accounts linking the SNA with specific fields of enquiry). The intent of Satellite Accounts is to make apparent and to describe in more depth aspects that are hidden in the National Accounts framework or surface only in a limited number of points (Stats SA, 2014). Culture, like tourism, is not an industry and cannot be classified separately.

The supply table shows the source or the origin of the goods and services produced within the economy for a given year in a matrix format. The supply of goods and services is measured at basic prices, which is the preferred method of valuing output in the SNA. The basic price is the amount receivable by the producer from the purchaser for a unit of a good or service produced as output minus any tax payable plus any subsidy receivable on that unit as a consequence of its production or sale. Basic prices exclude any transport charges invoiced separately by the producer.

The use table displays the demand for various goods and services, which may be used as intermediate inputs (goods and services that are purchased by an industry from other industries or imported to produce its outputs) or for final consumption by households, government, etc. The SNA recommends that intermediate and final consumption expenditure be valued at purchasers' prices. The purchasers' price is the amount paid by the purchaser, excluding any deductible VAT or similar deductible tax, to take delivery of a unit of a good or service at the time and place required by the purchaser. The purchasers' price of a good includes any transport charges paid separately by the purchaser to take delivery at the required time and place (Stats SA 2016a).

The SU-tables are available annually in a 64x104 product matrix and periodically available in a 171x104 matrix.

The SUT includes for example recreation, cultural, and sport activities.

4.10 Price data

It is possible to create various price indices from StatsSA (P0141) data. These are collected using the COICOP classification system. The data is also available per province. Examples include:

- Recreation and culture (CPA09000)
- Recreational equipment (CPA09100)
- Recreational and cultural services (CPA09400)
- Books, newspapers and stationery (CPA09500)

4.11 Trade data

Trade data is collected as an administrative function. This data is categorised according to the HS. At the international level, the HS for classifying goods is a six-digit code system comprising approximately 5,300 articles or products descriptions that appear as headings and subheadings, arranged in 99 chapters and grouped in 21 sections.

This has certain advantages and disadvantages. It is very detailed making it easier to identify CCI products. It is used very often by economists and therefore there are several concordances that can assist in classifying products according to other groupings or classification systems (e.g. SIC). This will allow the calculation of ratios to determine market penetration by foreign suppliers and export propensities. Indices can be calculated from these ratios and these indices can be included in the South African CCI Index.

Although countries are permitted to expand on the definitions, the six-digit code is internationally accepted making it possible to develop 'market share' indices of CCIs that can be included in the South African CCI Index. UNCTAD does convert the data to US dollars making comparison with other countries possible.

Unfortunately, the main purposes are to collect revenue and for trade policy (protection of industry). Therefore, some areas are very detailed while in other categories are very broad.

Goods trade

SARS is the legislatively empowered controlling entity for statistics on the importation and exportation of goods. SARS (and other foreign customs authorities) send their trade data to the UN. This data is made available to other UN agencies including UNCTAD. The export and import values are expressed in US dollars. This makes it possible to determine if South Africa's market share of trade is improving or not.

In addition, products, using the HS code, have been assigned to CCI domains. These are included in Appendix A.

Services trade

Although CCI goods trade data is collected through the South African Revenue Service's (SARS) customs and excise department as the goods leave or enter the country, service data is more problematic. Services trade data is collected by the South African Reserve Bank's (SARB) Balance of Payment measurements that capture CCI services export and import data explicitly. UNCTAD's database on CCI service trade would therefore be useful starting place.

4.12 Other South African data

There are several entities including private sector organisations (and clubs, organised business etc.), non-governmental organisations, and departments (including public entities and organs of state) at all three spheres of government that are involved in CCIs including CCI development, cultural promotion, heritage preservation or in some other way. These all entities collectively have a lot of information that should be included in a South African CCI Index. The problem is that the information is not collected according to any prescriptions and therefore is not always available in a format that can be used easily and incorporated into the proposed South African CCI Index. The information is sometimes only collected sporadically and may not be made available timeously. It is therefore proposed that a database of all the data relevant for the domains and dimensions identified be compiled and that missing data be addressed in an acceptable scientific manner.

4.12.1 National Treasury

Budget Vote Data

These datasets provide information on government expenditure given the annual budget cycles. Vote 37 provides for example medium-term budgets for arts and culture. This includes for example expenditure on:

- National Language Services;
- Pan South African Language Board;
- CCI's Development;
- Performing Arts Institutions;
- National Film and Video Foundation;
- National Arts Council;
- Capital Works of Performing Arts Institutions;

- Heritage Promotion;
- National Archive Services;
- Heritage Institutions;
- National Library Services;
- Public Library Services;
- South African Heritage Resources Agency;
- South African Geographical Names Council; and
- National Heritage Council.

Similar data may be available at provincial and municipal level. This data from National Treasury and the other spheres of government, will only give an indication of budgetary allocations. Even though this dimension is important, it is more important to understand what has been done with the funds that have been allocated. It is therefore critical that these public entities provide additional information that would add additional dimensions that in turn would be included in the South African CCI Index.

Additional information

Each of these statutory bodies could provide useful information that could inform South Africa's CCI Index. These are indicated in the table below:

Table 7: Indicative information collected from organs of state

Statutory body	Indicative data provided for the South African CCI Index (where possible sub-national data must be provided)
National Language Services and Pan South African Language Board	Number of publications (and readers) per language Number of multilingual citizens
Performing Arts Institutions	Number of full or part-time students Number of South African productions Visitors to South African productions
National Film and Video Foundation and the dti	Number of South African productions lodged with the foundation Number and value of subsidies for South African productions
National Arts Council	Number and value of grants awarded Output of grants
Capital Works of Performing Arts Institutions	Value of CCI capital stock
Heritage Promotion and Heritage Institutions	Number of museums Number of local visitor
National Archive Services	Number of documents preserved Number of enquiries to access the documents
National Library Services and Public Library Services;	Number of libraries Number of local visitors
South African Heritage Resources Agency and National Heritage Council;	Number of sites proclaimed Total number of sites Number of visitors
South African Geographical Names Council	Number of names registered

Source: Own compilation

Information from departments

Festivals

South Africa has several cultural and arts festivals that are well established and contribute to economic development. Music is one of the key cultural industries identified in the 'Cultural Industrial Growth Strategy Report'. Dancing as part of the African way of life and has become a prime means of artistic expression, with dance companies expanding exploring new territory. South Africa also has a very rich variety of visual art. Prehistoric, ancient, and other indigenous art, as well as Western, Asian, and other contemporary art, has influenced the countries visual art.

Some unofficial data gathering takes place through various sub-sector rights collection agencies and industry associations that conduct member surveys, as well as through reporting on funding and incentives, such as the dti's film incentive.

Publications

The ISN Agency issues International Standard Book Numbers (ISBN). An ISBN is assigned to each edition and variation of a book. An indication of the number of ISBNs issued each year will give an idea of how many books are being written.

Alternatively, since section 6(2) (a) of Legal Deposit Act 1997 makes provision that five copies of every book published must be deposited at designated libraries, a list indicating the number of books (with broad Dewey classifications) will also give a similar indication. However, books may be foreign.

Films

For films, videos and sound recordings, the requirements are similar to the legal deposit of books, except that the National Film, Video and Sound Archives (NFVSA) receives a deposit copy instead. The South African government, through the dti, offers a package of incentives to promote its film production and post-production industry. The incentives consist:

- The Foreign Film and Television Production and Post-Production;
- The South African Film and Television Production and Co-Production incentive; and
- The South African Emerging Black Filmmakers incentive, a sub-programme of the South African Film and Television Production and Co-production Incentive (the dti, 2017).

Although these incentives may eventually fall away, they do provide a dimension for the CCI Index that must be included.

Patents

The Companies and Intellectual Property Commission is responsible for granting patents in South Africa. This information will be particularly useful to indices regarding innovation.

Education & Training

If creativity can be 'taught' then creative skills need to be encouraged from an early age and the adoption and development of these skills needs to be supported by national education systems. Department of Basic Education and the Department of Higher Education should provide information of the number of students enrolled in, and the number who graduate any CCI related field.

4.13 Private sources data

4.13.1 South African Audience Research Foundation (SAARF)

According to their website "SAARF's main objective is to direct and publish media audience and product/brand research for the benefit of its stakeholders, thereby providing data for target marketing and a common currency for the buying and selling of media space and time. SAARF has thus the responsibility to measure the audiences of all traditional media such as newspapers, magazines, radio, television, cinema and out of home media. This is done by ensuring that the necessary joint industry research surveys are conducted every year to provide updated audience information for all traditional media (AMPS, RAMS, TAMS and OHMS)" (SAARF, 2017). They collect data on:

- Magazine & newspaper readership
- Cinema Trends
- Internet Trends

- Community Radio Listening (RAMS)
- Commercial Radio Listening (RAMS)
- TV Viewing (TAMS)
- Magazine Reading (AMPS)
- Newspaper Reading (AMPS)
- Cinema Attendance (AMPS)
- Out of Home Media (AMPS)
- Products and Brands (Branded AMPS)

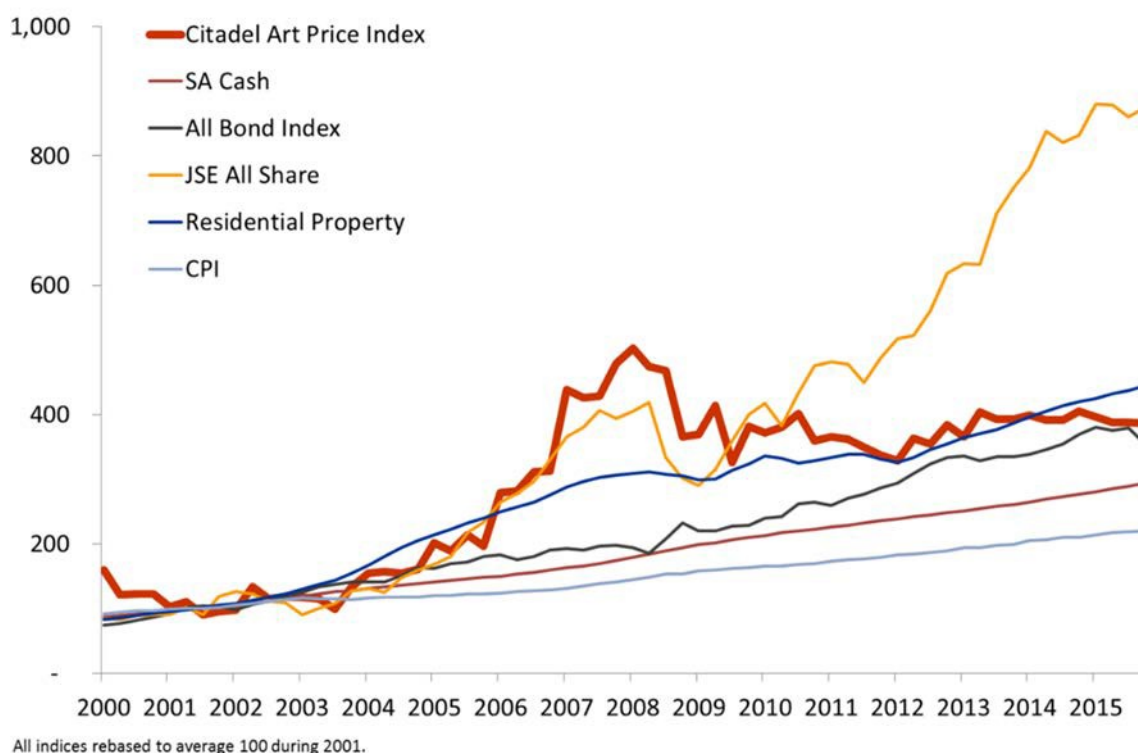
4.13.2 Art

There are many art clubs around South Africa. These need to be included in a database and dimensions such as membership number can be included in the CCI Index.

The Citadel Art Price Index

The South African wealth management firm Citadel has developed a South African art price index and has been calculated back to 2000 using the hammer prices (that is, the prices at which lots are knocked down, before buyer's premium, tax or any other charges) provided by Actionvault of sales at what Citadel considered the six most reputable local auction houses – 5th Avenue Auctioneers, Ashbey's Galleries, Bernardi Auctioneers, Russell Kaplan Auctioneers, Strauss and Co and Stephan Welz and Co and Bonhams in London. Gallery sales are excluded, as not enough reliable information is available about gallery prices and volumes, but the index does cover not only paintings but also photography, sculpture and graphics. They use the same methodology of the Mei Moses index. Mark Read of the Everard Read Gallery criticise the index as it debases art that cannot be reduced to the level of stocks and shares" (VANSA< 2017).

Figure 16: Citadel Art Price Index



Sub-national data

Participation of communities, non-government organisations, small and medium scale enterprises and the private sector in policy formulation and decision-making, particularly at the local level, is essential to guarantee maximum benefits for sustainable economic and social development. To this end, stakeholders are encouraged to establish and strengthen broad networks which bring together different elements of society, and linkages with global and regional value chains. There are two international databases (World Input-Output Database (2017), UNCTAD (2015) and the Organisation for Economic Co-operation and Development (OECD) (OECD 2017)) that can be used for international comparison.

5 Available data internationally

There is also data that is available internationally that can be used to compare South Africa's CCI performance to those of other countries and then to identify international best practice that South Africa can learn from.

5.1 UNCTAD

UNCTAD's data centre gives access to more than 150 time series covering a broad range of topics and built upon common rules and harmonised production processes. Most of the time series data covers long periods for almost all economies of the world as well as more than 150 ready-to-use analytical country groupings. Tables are regularly updated and classified by subject area (trade, investment, maritime transport, etc.) for easier navigation. Their data browser facilitates easy selection and reorganisation of data, the construction of bespoke tables or graphic presentations, as well as personalized functionalities and extraction options" (UNCTAD, 2017).

This data centre has a major heading for the creative economy that includes creative goods, creative services, and related industries. The data however only has trade data and trade indicators (for creative goods exports and imports for individual countries, geographical regions, and economic groupings) from 2003 to 2012. UNCTAD secretariat calculations, based on UN DESA Statistics Division, UN COMTRADE.

5.2 Unesco

Other international data sources include:

- Cinema attendance by country¹²;
- Cinema statistics (Unesco)¹³;
- Feature films (Unesco¹⁴; and
- Unesco culture and communication statistics¹⁵.

Data are available on the themes of:

- Press;
- Libraries of institutions of tertiary education;

¹² www.nationmaster.com/graph/med_cin_att-media-cinema-attendance

¹³ <http://www.uis.unesco.org/Culture/Pages/movie-statistics.aspx>

¹⁴) <http://www.uis.unesco.org/DataCentre/Pages/BrowseCulture.aspx#>

¹⁵ http://www.uis.unesco.org/ev.php?ID=5208_201&ID2=DO_TOPIC

- National, other major non-specialised libraries, and public libraries;
- Book production;
- Films and cinemas;
- Museums and related institutions;
- Broadcasting; and
- Worldwideboxoffice.com¹⁶.

5.3 Comtrade and the World Integrated Trade Solution

The UN collects information on customs officials across the world to create a database of all international trade between nations. The World Integrated Trade Solution (WITS) augments this with other data. The World Bank, in collaboration with the UNCTAD and in consultation with organisations such as International Trade Centre, United Nations Statistical Division (UNSD) and the World Trade Organisation (WTO), developed the WITS. This software allows users to access and retrieve information on trade and tariffs. Below is list of international organisations that compile this data:

- The UNSD Commodity Trade (UN Comtrade) database contains merchandise trade exports and imports by detailed commodity and partner country data. Values are recorded in U.S. dollars, along with a variety of quantity measures. The database includes information on more than 170 countries, and features statistics that have been reported to the UN since 1962. These statistics and data continue to be recorded according to internationally recognised trade and tariff classifications.
- The UNCTAD Trade Analysis Information System (TRAINS) contains information on imports, tariffs, para-tariffs and non-tariff measures. The data on tariffs, para-tariffs and non-tariff measures are available at the most detailed commodity level of the national tariffs (i.e., at the tariff line level). The data are recorded according to three internationally recognised trade and tariff classifications.
- The WTO's Integrated Data Base (IDB) contains imports by commodity and partner countries and Most Favoured Nation (MFN) applied and, where available, data on preferential tariffs at the most detailed commodity level of the national tariffs. The Consolidated Tariff Schedule Data Base (CTS) contains WTO-bound tariffs, Initial Negotiating Rights and other indicators. The CTS reflects the concessions made by countries during goods negotiations (e.g., the Uruguay Round of Multilateral Trade Negotiations). The IDB and CTS are practical working tools and there are no implications as to the legal status of the information contained therein.
- The World Bank and the Centre for International Business, Tuck School of Business at Dartmouth College Global Preferential Trade Agreements Database provide information on preferential trade agreements (PTAs) around the world, including agreements that have not yet been notified to the WTO. This resource helps trade policy makers, research analysts, the academia, trade professionals and other individuals better understand PTAs.

This dataset can be used to determine what the cultural trade is between countries and allows South Africa to compare its performance with our countries. It can also be used to identify potential market gaps that can be used to encourage exporters and potential exporters to improve South Africa's trade performance.

¹⁶ www.worldwideboxoffice.com/index.cgi?order=worldwide&start=1800&finish=&keyword=

6 Conclusion

A comprehensive composite South African CCI Index requires a great deal of data. The purpose or objectives of the index will determine its composition and data requirements. For international comparison, compatible data from international sources will be required. Fortunately, the UN agencies collect and reorganise data from member states and ensure that the data are comparable. As CCIs acquire greater recognition of their socio-economic value and significance, the importance of evidence-based policy making is gaining more traction. This is data intensive and more resources are being allocated to collecting CCI data. The CCI data repository is growing rapidly in breadth and depth.

There is also a greater recognition of the importance of CCIs for South Africa's socio-economic development. The DAC has therefore established the SACO to contribute to the collection and analysis of CCI data. Fortunately, there is data, albeit scattered public and private sectors. Some of only aggregated South African data is available. Opportunely some of the CCI data is available at sub-national level. This is truer regarding provincial data than at municipal or even ward level.

Chapter 5: A map of the way forward

1 Introduction

Given the complexity of the process and the granularity of the data that is required for the construction of a comprehensive South African CCI Index, will take some time, resources and a great deal of effort. It also requires careful consideration and strategic decision-making regarding the use and purpose of a CCI index in the South African context. As indicated this requires a careful negotiation of the definitional challenges, an understanding of the available data, access to up-to-date and relevant data sources and databases, a commitment to collaboration and partnership, especially with StatsSA, and lastly an investment – time and financial – to bring the index to life. This section maps the potential way forward with regard to the proposed South African CCI Index.

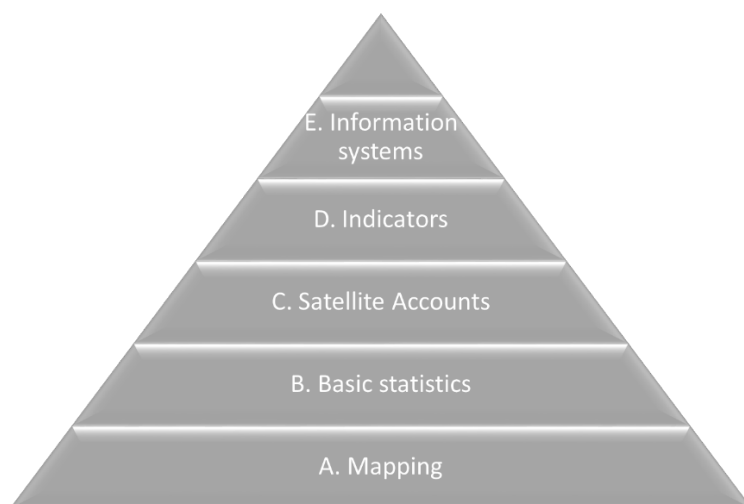
1.1 Operationalisation for the development of a South African CCI Index

The process to develop and operationalise a South African CCI Index is described below. Besides the data requirements, some stakeholders and role players must be consulted, given the opportunity to provide input, and in a few instances to provide the data.

1.1.1 Stages to developing a CCI index

Restrepo *et al.* (2013) graphically depicted the process of developing a CCI statistical system. The mapping of CCIs is considered the foundation. This is followed by the collection of basic statistics, the development of CCI Satellite Accounts, indicators and then the development of CCI information systems. The SACO has already begun with this process and various reports have been completed¹⁷. The Restrepo *et al.* (2013) process is shown graphically below:

Figure 17: Stages to developing a CCI index



Source: Restrepo *et al.* (2013)

- A. **Mapping:** is the mandatory first step in any serious effort to understand the economic contribution of a sector with substantial information gaps. Mappings is conducted using a variety of methodologies and is designed for specific purposes. Essentially, mapping takes a

¹⁷ <http://www.southafricanculturalobservatory.co.za/document-library/saco-documents-research>

snapshot that captures the conditions of an economic sector at a point in time and identifies information gaps.

- B. **Basic statistics:** to address information gaps, appropriate surveys of economic activity must be created and conducted. These surveys capture better economic data on formal and informal activities within a sector, allowing for the reclassification of some activities and more detailed analysis.
- C. **Satellite Accounts:** allow for continuous, reliable and comparable measurement of industries that are derived from a national statistics system. While mapping takes snapshots, Satellite Accounts capture the “moving image” of an economic activity.
- D. **Indicators:** once data becomes consistent, the variables and parameters that allow for continuous analysis and benchmarking of the global performance of cultural and creative activities are defined.
- E. **Information systems:** once there’s an established structure for continuous analysis of the economic performance of the industry and a consolidated client base for the data emerges, it is important to generate the structures for the production of the intelligence required by policy makers and business managers to enhance their decision-making.

Clearly basic statistics are a minimum requirement in developing a CCI Index. Satellite Accounts for CCIs would be also be useful, especially if the CCI indices are going to span over time and be comparable with other regions or countries.

A critical factor in developing a CCI Index as discussed above is that current classification systems inadequately describe the South African CCIs. The discussion below discusses various definitions and attempts in coining definitions

1.1.2 Roadmap to Implement develop a South African CCI Index

It is proposed the process described graphically in the figure below be followed to implement the proposed South African CCI Index. Each of the steps is then discussed in the various sections.

The process map below shows the sequence of events that must occur before a CCI Index can be established. It shows only the high-level activities. Each of these activities is supported by numerous tasks that need to be carried out by various government departments in different spheres of government, relevant agencies, and other stakeholders. The main role players, however, are StatsSA, the DAC, and the SACO.

1.2 Operationalisation of a South Africa CCI Index

1.2.1 Mapping

Mapping studies are the critical starting point for a South African CCI Index. There has been one major mapping study of the CCIs conducted in South Africa in 2013/14, commissioned by the DAC. This data represents and initial starting point for a second mapping exercise which will take place this year in 2017, led by the SACO. Since mapping takes a snapshot that captures the conditions of an economic sector at a point in time and identifies information gaps – the first mapping study presents a baseline and also an indication of gaps. The second mapping study, which the SACO is planning and undertaking, will seek to expand on the baseline, manage the gaps identified and improve the quantity and quality of the data collected.

1.2.2 Basic statistics, satellite accounts, and indicators

A database of available time-series data based on the basic statistics available – likely from the sources identified above and primary from StatsSA – and data emanating from the Satellite Accounts must be developed and maintained. SARS trade data is available and must also be added to the database.

Similarly, the time-series data from other international organisations must be obtained and included on the database.

Other administrative data must be collected, captured, and included into the database. Where necessary agreements should be concluded with organisations that have access to primary source data. At a very baseline, the DAC should instruct all its 27 entities, and provinces and municipalities, to share their databases with the DAC/ SACO to ensure a wide berth of coverage of the CCI domains. All Satellites should also do the same. A gamut of the source data options are discussed below. Private sector databases that are sold should be evaluated, procured, and included into the database used to calculate the South African CCI indices.

1.2.3 Information systems

There are two main components of the information systems that need to be considered:

- The data included in the information systems; and
- Programming to calculate the South African CCIs.

Database issues

The SACO has access to a database of over 20,000 organisations, companies, and individuals involved in the creative industries. The database includes a domain and a description of the entity. In most cases, it has contact details and geographic coordinates. This is a good baseline for initial contact, but can and should be significantly expanded in terms of quantity and quality of information included.

Database management becomes more important as the volume of business data grows. It is necessary to create, read, update, vet delete and make quality decisions about data in a database. It is recommended that the SACO database update process is established, where companies receive an email and a unique code to gain access to their segment of the database online and both update essential contact data, but also input additional data of value to the Index and the mapping study. This should be an annual process where the organisations, companies, and individuals can update the information when necessary. The SACO will need to take responsibility to ensure that each entity/entry on the database is contacted by email, telephone or even by postal mail annually, to ensure that they update their information.

The database should allow for the extraction of data per month, quarter, and year. This will enable indices to be developed accordingly. South African data must also include spatial dimensions so that sub-national indices can also be created.

Programming to calculate the South African CCIs

Indices can be calculated manually, or with the aid of popular software (MS Excel®, MS Access®), or by using more sophisticated programming. The proposed South African CCI Index is complex and would therefore require significant programming.

1.3 A robustness set of CCI indices

Assessment of the robustness of the CCI Index is necessary. This is regard the following verification needs to be done:

- The imputation;
- Weighting; and

- Aggregation.

Tests such as uncertainty and sensitivity analysis needs to be undertaken, indicating again the need for a comprehensive statistical approach to the South African CCI Index.

1.4 Surveys

Regular surveys should be done but these are resource intensive. Surveys need to be well planned and integrated with other surveys already undertaken. It is necessary to undertake a critical analysis of existing surveys to determine if there are some CCI questions that could be added and/or if responses could include some additional categories so that, for example, cultural leisure activities could be separated from sport?

Regular surveys should also be done across the entire database as well as across domains and other areas related to the CCIs. It is critical that the SACO starts to run regular segmented surveys across the industry to start to sensitise the industry, sectors and domains to the importance of data collection. This can be done using professional tools.

1.5 Need for institutional mechanisms

The multidimensionality and cross-cutting nature of the creative industries mean that there is an inevitable tendency for policy strategies to become fragmented. If this leads to the application of piecemeal measures, there may be a danger that the policy strategies are contradictory in their impact. It is clear that an integrated approach towards enhancing the creative industries and hence the creative economy is needed in policy-making. This approach requires effective institutional mechanisms for coordination of policies across the various agencies with responsibilities in this area. Currently the following role-players and their associated policy mandates and constraints needs to be considered: DAC, the dti, SARS, StatsSA, SARB, Department of Small Business Development, Department of Education and the National Planning Commission.

1.6 Potential partners to maintain the set of CCI Indices

In addition to the cross-cutting nature of political and administrative responsibilities, there is also a similar multiplicity of levels of involvement if one looks at the various sectors of the economy with which the creative industries are engaged. Individuals and organisations involved in cultural activities and active in the creative economy operate in the following areas:

- The public sector (DAC-funded entities and public cultural institutions - such as museums, galleries, public service broadcasting organisations, etc.);
- The for-profit private sector (a wide range of commercial operations in all fields of culture and creative production and distribution);
- The non-profit sector (theatre and dance companies, festivals, orchestras and other music ensembles, craft cooperatives, etc., some of which may receive government financial incentives); and
- Civil society (advocacy non-governmental organisations (NGOs), foundations, academia, artistic and creator's professional associations, sectoral organisations, etc.).

1.7 Form of agreement

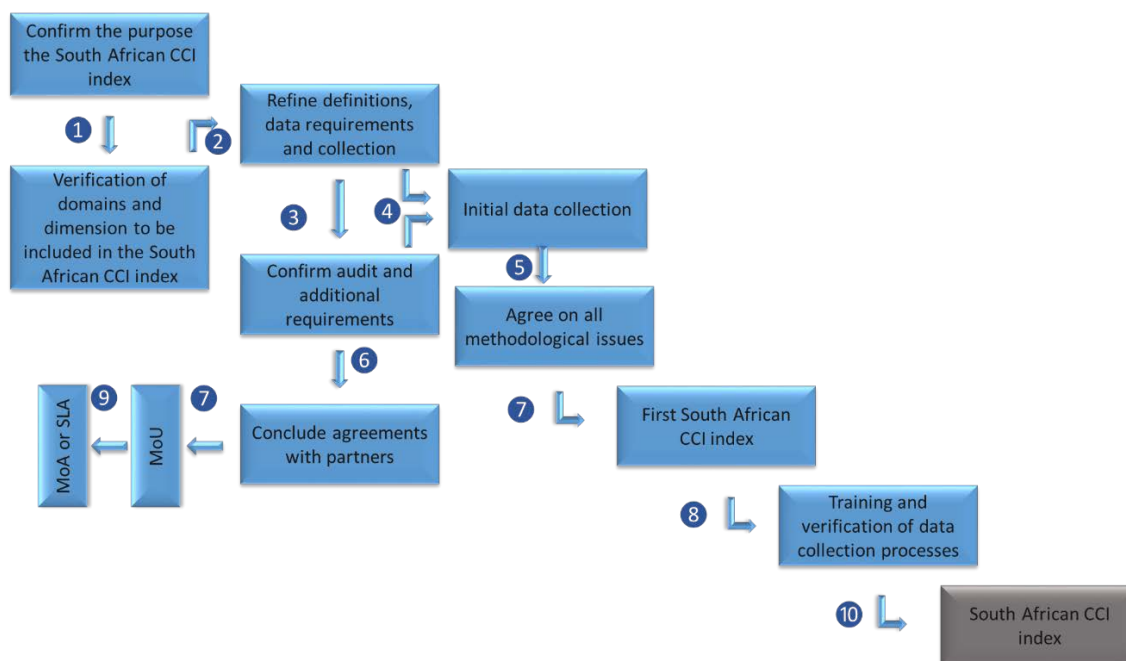
1.7.1 Formal or informal agreements

The form of agreement will vary widely. At national level the MinMEC, Cabinet Cluster, or FOSAD could agree what data is made available and the terms that this is done. These decisions could also be made binding on the respective organs of state. Data purchased will be done through the normal terms of the business and any legislation (including regulations etc.) that may apply. In the long term, more formal agreements may have to be made.

1.7.2 Agreement with StatsSA, the DAC and the SACO

The tripartite MoU should be seen as the first step towards a legal contract. In this case, it is proposed that a MoA eventually is signed by the three parties. The MoA should spell out what will be done, by whom, what the time frames are, and what resources need to be allocated to the project. It needs to give more detail than the MoU. The MoA will also specify who holds the IP and what other parties may do with information collected and tools developed. It is probably easier, however, if the MoU be augmented with an SLA that can be signed between the three parties. The SLA should also include what will be done by whom, what the time frames are, and what resources need to be allocated to the project.

Figure 18: Roadmap towards a South African CCI Index



2 Developing Selected CCI indices

The calculation of the indices is going to present a few challenges. The availability and the accuracy of the data have already been discussed above, as have the choice between whether to use official data or private data. More important is firstly finalisation of the focus domains and the weighting given to each domain. It is important to realise that not all of the domains have all the dimensions that were

discussed above. The table below presents the possible domains and includes some of the dimensions that can be included.

Table 8: Preliminary domains and dimensions

South African Sub-CCI indices	Component indices (Domains)	Sub-component indices (Sub-domains)	Economic Dimensions	Other Dimensions	Spatial Dimension	Data available
Heritage						
	Traditional cultural expressions					
		art crafts	Y, L, X, M,		I, SA, P, M	
		festivals		N	SA, P	
		performances & celebrations		N	SA, P	
		cultural sites		N	SA, P	
	Archaeological & heritage sites					
		museums		N, V	SA, P	
		libraries		N, V	SA, P	
		exhibitions				
		cultural villages				
		precincts				
	Cultural and natural heritage					
		cultural landscapes		N, V	SA, P	
Arts						
	Visual arts					
		painting	Y, L, X, M, T, ZAR		I, SA	
		sculpture	Y, L, X, M, T, ZAR		I, SA	
		photography	Y, L, X, M, T, ZAR		I, SA	
		antiques	Y, L, X, M, T, ZAR		I, SA	
		ceramics	Y, L, X, M, T, ZAR		I, SA	
		public art	Y, L, X, M, T, ZAR		I, SA	
		crafts	Y, L, X, M, T, ZAR		I, SA	
		multi-media	Y, L, X, M, T, ZAR		I, SA	
	Performing arts					
		live music		N, V	SA, P	
		theatre		N, V	SA, P	
		dance		N, V	SA, P	
		opera		N, V	SA, P	
		circus		N, V	SA, P	
		puppetry		N, V	SA, P	
Media						
	Publishing and printed media					
		books	Y, L, X, M, T, ZAR	N	I, SA	
		press	Y, L, X, M, T, ZAR	N	I, SA	
		other publications	Y, L, X, M, T, ZAR	N	I, SA	
		audio-visuals	Y, L, X, M, T, ZAR	N, V	I, SA	
		film	Y, L, X, M, T, ZAR	N, V	I, SA	
		television	Y, L, X, M, T, ZAR	N, V	I, SA	
		radio	Y, L, X, M, T, ZAR	N, V	I, SA	
		other broadcasting	Y, L, X, M, T, ZAR	N, V	I, SA	
	Books and press					
		book fairs		N, V	SA, P	
Functional Creations						
	Design					
		interior design				
		graphic design				
		fashion				
		jewellery	Y, L, X, M, T, ZAR	N, V	I, SA	
		toys	Y, L, X, M, T, ZAR	N, V	I, SA	
	New media					
		software development				
		advertising				
		cultural and recreational				
		creative R&D		N	SA	
		digital and other related				
		creative services				
Creative services						

South African Sub-CCI indices	Component indices (Domains)	Sub-component indices (Sub-domains)	Economic Dimensions	Other Dimensions	Spatial Dimension	Data available
		architectural		N	SA	
		advertising				
		cultural and recreational				
		creative R&D				
		digital and other related creative services				

Where:

- Y - GVA
- L - employment
- X - export data
- M - imports data
- T – turnover, sales (in South African Rand)
- ZAR - price
- I - international data available
- SA - data only available for South Africa
- P - provincial data available
- M - local level data available
- N – number (of events etc.)
- V – number of visitors

It is therefore probable that a domain will have more than one dimension. Again, there is the question of what weights should be allocated to each dimension. This may depend on the purpose it is required for and judgement call would have to be made. Alternatively, either scientific or statistical methods could be used. Initially, where data is available, equal weights will be given.

The availability of data from international sources and national sources that include sub-national disaggregated data will be necessary to calculate indices that will allow either comparison with other countries or comparison in South Africa between provinces and municipalities. For example, natural heritage indices should be calculated for South Africa and then additional information can be collected to calculate sub-national indices. Initially these should be calculated only by province and then extended to Category A and B (metro and district) municipalities and then Category C (local) municipalities.

Data may have to be processed before an index can be created. For example, identifying CCI employees is very difficult since some occupations are of a CCI nature, but the employee may not necessarily work in a CCI sector. There are cultural workers in non-cultural industries and non-cultural workers in cultural industries. Where employment is concerned, the question is whether only cultural workers in cultural industries are included or also cultural workers in non-cultural industries and non-cultural workers in cultural industries must be asked.

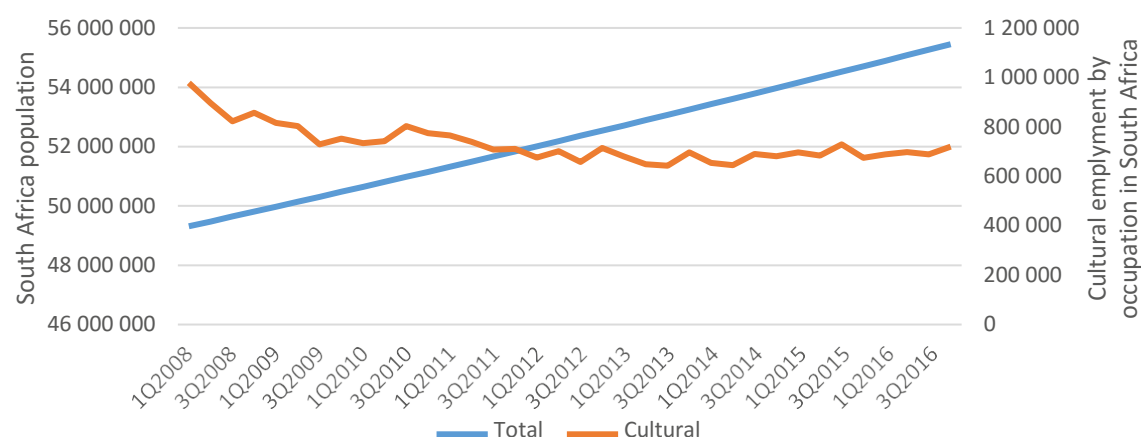
Figure 19: Matrix of CCI workers and industries

		CCI industries	
		CCI workers	Non-CCI workers
Non-CCI industries	CCI workers		
	Non-CCI workers		

2.1 A cultural employment index

A CCI employment index has been created for all CCI workers in all industries. The graph below shows South Africa's population and the number of cultural employees (from both CCI and non-CCI sectors).

Figure 20: CCI employment

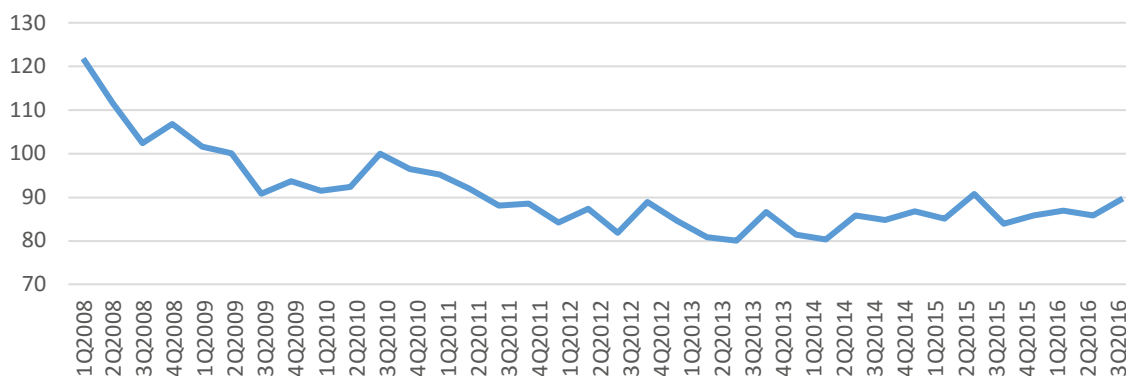


Source: Own calculations based on StatsSA data

An index of the South African population is also included. As would be expected, it is upward sloping showing the population growth.

The CCI employment index given below is calculated using the 3rd quarter of 2010 as the base. There is a slow drop in cultural employment from 2008 until 2012 when there was a levelling off.

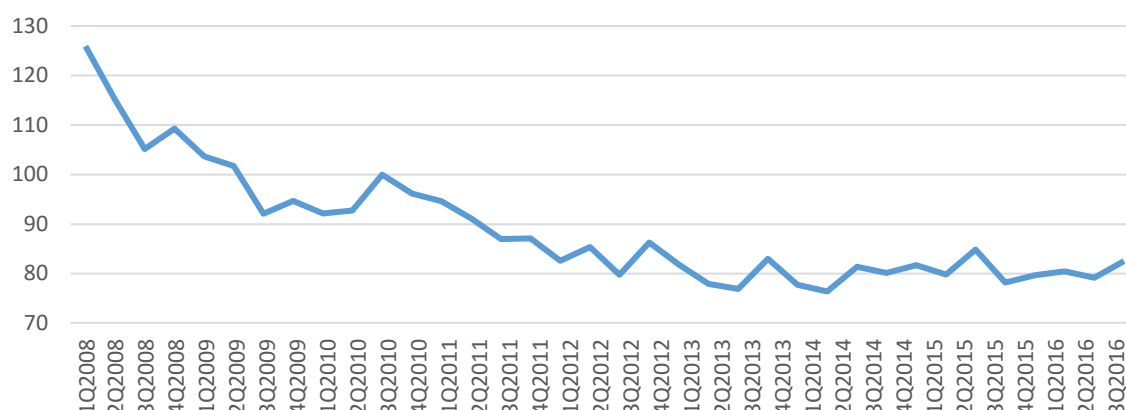
Figure 21: CCI employment index (2010=100)



Source: Own calculations based on StatsSA data

This tapering off is also shown using a composite index that was calculated using cultural employment relative to South Africa's population. A similar pattern is shown but there are differences. The index in the fourth quarter of 2016 based on CCI employment alone is 90, while the relative employment index is 83. This shows that cultural employment did not keep up with the population.

Figure 22: CCI relative employment index (2010=100)



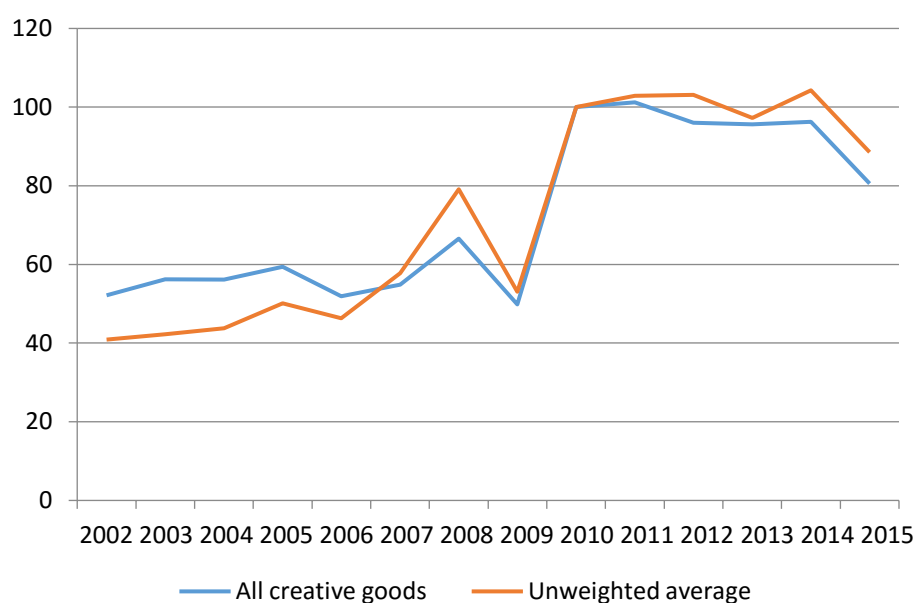
Source: Own calculations based on StatsSA data

2.2 A CCI trade index

UNCTAD's trade database has been used to calculate this index. The South African data from the SARS data can also be used. It is in nominal rand values and therefore would have to be deflated to take account of the devaluing rand and inflation. However, the SARS data does have the advantage that sub-national data is available and could be used to calculate provincial or even local municipal indices.

The graph below shows the difference in the export indices if the index is calculated from the total value of exports of CCI products or if domains are used to calculate the index and then use a simple unweighted average.

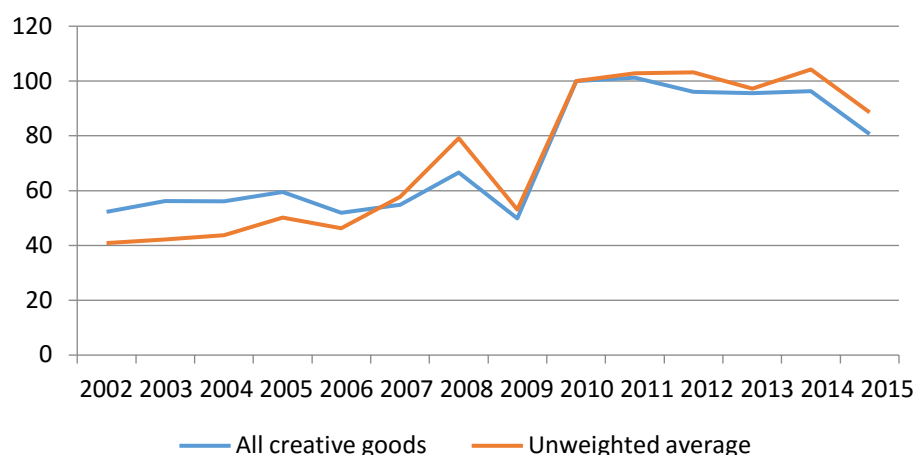
Figure 23: South Africa's CCI export index (2010=100)



Source: Own calculations based on UNCTAD data

Using the same methodology, the CCI import indices are reported below.

Figure 24: South Africa's CCI import index (2010=100)



Source: Own calculations based on UNCTAD data

3 Conclusion

The development of a CCI Index for South Africa is difficult and collecting the data is going to present challenges. However, it does make logical sense as it will support the regular collection of such data and provide credible information on which to make policy, strategy, planning and funding decisions. The above paper presented the case for the development of a South African CCI Index (together with a set of indices).

The purpose of indices, definitions and parameters related to the development of a CCI Index were discussed and the challenges highlighted. Although the calculation of the indices are relatively simple, decisions must be made regarding the purpose of the South African CCI Index, what domains and dimensions are most relevant and decisions regarding the methodological issues raised.

International practices were discussed. There is still debate regarding the domains and the dimensions in both the academic literature and also in practice. However, from the discussions a set of indices has been identified that will meet South Africa's needs and also allow for limited comparison with other countries and in many case cities or regions.

An audit of current available data, including data in South Africa (national and sub-national) and internationally, highlighting the strengths and weaknesses of these data was undertaken. This also includes the identification of potential partners to develop and maintain the set of South African CCI indices.

1 References

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Appendix A: UNCTAD's classification of CCI products according to HS codes

Code	Product
CER001	All creative goods
CER002	Art crafts
CER009	Carpets
570110	Carpets & other textile floor coverings, knotted, whether/not made up, of wool/fine animal hair
570190	Carpets & other textile floor coverings, knotted, whether/not made up, of textile materials other than
570210	Kelem, Schumacks, Karamanie & similar hand-woven rugs
570220	Floor coverings of coconut fibres (coir)
570231	Carpets & other textile floor coverings, woven, of pile construction, not made up, of wool/fine animal hair
570232	Carpets & other textile floor coverings, woven, of pile construction, not made up, of man-made textile
570239	Carpets & other textile floor coverings, woven, of pile construction, not made up, of textile materials other
570241	Carpets & other textile floor coverings, woven, of pile construction, made up, of wool/fine animal hair
570242	Carpets & other textile floor coverings, woven, of pile construction, made up, of man-made textile materials
570249	Carpets & other textile floor coverings, woven, of pile construction, made up, of textile materials other than
570250	Carpets & other textile floor coverings, not of pile construction & not made up, woven, not tufted/flocked,
570291	Carpets & other textile floor coverings, woven, not of pile construction, made up, of wool/fine animal hair
570292	Carpets & other textile floor coverings, woven, not of pile construction, made up, of man-made textile
570299	Carpets & other textile floor coverings, woven, not of pile construction, made up, of textile materials other
570330	Carpets & other textile floor coverings, tufted, whether/not made up, of man-made textile materials other
CER010	Celebration
950510	Articles for Christmas festivities (excl. live trees, Christmas candles/tree candles, Christmas tree stands &
950590	Festive/carnival/other entertainment articles (excl. articles for Christmas festivities), incl. conjuring tricks &
950810	Travelling circuses & travelling menageries
CER011	Other art crafts
442090	Wood marquetry & inlaid wood; caskets & cases for jewellery/cutlery, & similar articles, of wood; wooden
670290	Artificial flowers, foliage & fruit & parts thereof, of materials other than plastics; articles made of artificial
701890	Articles of glass beads, imitation pearls, imitation precious/semi-precious stones; glass eyes other than
960110	Worked ivory & articles of ivory
960190	Worked, bone, tortoise-shell, horn, antlers, coral, mother-of-pearl & other animal carving material, & articles
960200	Worked vegetable/mineral carving material & articles of these materials; moulded/carved articles of wax, of
CER012	Paperware
480210	Hand-made paper & paperboard, uncoated, of a kind used for writing/printing/other graphic purposes
CER013	Wickerware
460121	Mats, matting&screens of vegetable materials, of bamboo
460122	Mats, matting&screens of vegetable materials, of rattan
460129	Mats, matting&screens of vegetable materials (excl. of 4601.21& 4601.22)
460192	Plaits&similar products of plaiting materials, whether/not assembled into strips; plaiting materials,
460193	Plaits&similar products of plaiting materials, whether/not assembled into strips; plaiting materials,
460194	Plaits&similar products of plaiting materials, whether/not assembled into strips; plaiting materials,
460199	Plaits & similar products of plaiting materials, whether/not assembled into strips; plaiting materials, plaits &
460211	Basketwork, wickerwork & other articles, made directly to shape from bamboo
460212	Basketwork, wickerwork & other articles, made directly to shape from rattan
460219	Basketwork, wickerwork & other articles, made directly to shape from vegetable materials other than
CER014	Yarn
580430	Hand-made lace in the piece/in strips/in motifs, other than fabrics of 60.02-60.06
580500	Hand-woven tapestries of the type Gobelins, Flanders, Aubusson, Beauvais & the like, & needle-worked
580610	Narrow woven pile fabrics (incl. terry towelling & similar terry fabrics) & chenille fabrics, other than goods of
580620	Narrow woven fabrics (excl. of 5806.10), containing by weight 5%/more of elastomeric yarn/rubber thread,
580631	Narrow woven fabrics (excl. of 5806.10 & 5806.20), other than goods of 58.07, of cotton
580632	Narrow woven fabrics (excl. of 5806.10-5806.31), other than goods of 58.07, of man-made fibres
580639	Narrow woven fabrics (excl. of 5806.10-5806.32), other than goods of 58.07, of other textile materials
580640	Narrow woven fabrics consisting of warp without weft assembled by means of an adhesive (bolducs)
580810	Braids in the piece
580890	Ornamental trimmings in the piece, without embroidery (excl. knitted/crocheted; tassels, pompons & similar

Code	Product
580900	Woven fabrics of metal thread & woven fabrics of metallised yarn of 56.05, of a kind used in apparel/as
581010	Embroidery in the piece, without visible ground, in strips/motifs
581091	Embroidery in the piece (excl. embroidery without visible ground), in strips/motifs, of cotton
581092	Embroidery in the piece (excl. embroidery without visible ground), in strips/motifs, of man-made fibres
581099	Embroidery in the piece (excl. embroidery without visible ground), in strips/motifs, of textile materials other
581100	Quilted textile products in the piece, composed of one/more layers of textile materials assembled with
600240	Knitted/crocheted fabrics of a width not > 30 cm, containing by weight 5 %/more of elastomeric yarn but not
600290	Other Knitted/crocheted fabrics of a width not > 30 cm, other than those of heading 60.01 & 6002.40
600310	Knitted/crocheted fabrics of wool/fine animal hair, a width not > 30 cm, other than those of heading
600320	Knitted/crocheted fabrics of cotton, a width not > 30 cm, other than those of heading 60.01/60.02.
600330	Knitted/crocheted fabrics of synthetic fibres, a width not > 30 cm, other than those of heading 60.01/60.02.
600340	Knitted/crocheted fabrics of artificial fibres, a width not > 30 cm, other than those of heading 60.01/60.02.
600390	Knitted/crocheted fabrics other than of wool/fine animal hair/cotton/synthetic fibres/ artificial fibres, of a
600410	Knitted/crocheted fabrics of a width >30cm, containing by weight 5%/more of elastomeric yarn/rubber
600490	Knitted/crocheted fabrics of a width >30cm, containing by weight 5%/more of elastomeric yarn/rubber
630232	Bed linen (excl. knitted/crocheted), of man-made fibres (excl. printed)
630240	Table linen, knitted/crocheted
630411	Bedspreads, knitted/crocheted
630491	Textile furnishing articles other than bedspreads (excl. of 94.04), knitted/crocheted
630800	Sets consisting of woven fabric & yarn, whether/not with accessories, for making up into
CER003	Audiovisuals
CER015	Film
370610	Cinematographic film, exposed & developed, whether/not incorporating sound track/consisting only of sound
370690	Cinematographic film, exposed & developed, whether/not incorporating sound track/consisting only of sound
CER016	CDs, DVDs, tapes
852329	Magnetic media for the recording of sound/of other phenomena, but excl. products of Ch. 37., other than
852340	Optical media for the recording of sound/of other phenomena, but excl. products of Ch. 37.
852380	Discs, tapes, solid-state non-volatile storage devices, "smart cards" & other media for the recording of
CER004	Design
CER017	Architecture
490600	Plans & drawings for architectural, engineering, industrial, commercial, topographical/similar purposes, being
CER018	Fashion
420211	Trunks, suit-cases, vanity-cases, executive-cases, brief-cases, school satchels & similar containers, with outer
420212	Trunks, suit-cases, vanity-cases, executive-cases, brief-cases, school satchels & similar containers, with outer
420221	Handbags, whether/not with shoulder strap, incl. those without handle, with outer surface of
420222	Handbags, whether/not with shoulder strap, incl. those without handle, with outer surface of plastic
420231	Articles of a kind normally carried in the pocket/the handbag, with outer surface of leather/composition
420232	Articles of a kind normally carried in the pocket/the handbag, with outer surface of plastic sheeting/textile
420292	Trunks, suit-cases, vanity-cases, executive-cases, brief-cases, school satchels, spectacle cases, binocular cases,
420310	Articles of apparel, of leather/composition leather
420329	Gloves, mittens & mitts, of leather/composition leather other than those specially designed for use in sports
420330	Belts & bandoliers, of leather/composition leather
420340	Clothing accessories (excl. of 4203.21-4203.30), of leather/composition leather
430310	Articles of apparel & clothing accessories, of fur/skin
611710	Shawls, scarves, mufflers, mantillas, veils & the like, knitted/crocheted
611780	Other made up clothing accessories, other than shawls/scarve/mufflers/mantillas/veils, knitted/crocheted;
611790	knitted/crocheted parts of garments/clothing accessories
621410	Shawls, scarves, mufflers, mantillas, veils & the like (excl. knitted/crocheted), of silk/silk waste
621420	Shawls, scarves, mufflers, mantillas, veils & the like (excl. knitted/crocheted), of wool/fine animal hair
621430	Shawls, scarves, mufflers, mantillas, veils & the like (excl. knitted/crocheted), of synthetic fibres
621440	Shawls, scarves, mufflers, mantillas, veils & the like (excl. knitted/crocheted), of artificial fibres
621490	Shawls, scarves, mufflers, mantillas, veils & the like (excl. knitted/crocheted), of textile materials other than
621510	Ties, bow ties & cravats (excl. knitted/crocheted), of silk/silk waste
621520	Ties, bow ties & cravats (excl. knitted/crocheted), of man-made fibres
621590	Ties, bow ties & cravats (excl. knitted/crocheted), of textile materials other than silk/silk waste/man-made
621710	Made up clothing accessories (excl. knitted/crocheted), n.e.s.
621790	Parts of garments/clothing accessories (excl. knitted/crocheted; excl. of 62.12)
650400	Hats & other headgear, plaited/made by assembling strips of any material, whether/not lined/trimmed
650590	Other hats & other headgear, knitted/crocheted,/made up from lace, felt/other textile fabric, whether/not

Code	Product
650699	Headgear, other than safety headgear, of other materials, other than of rubber/plastics, whether/not
900410	Sunglasses
CER019	Glassware
701310	Glassware of a kind used for table/kitchen/toilet/office/indoor decoration/similar purposes (excl. of
701322	Stemware drinking glasses, other than of glass-ceramics, of lead crystal.
701333	Other drinking glasses, other than of glass ceramics, of lead crystal.
701341	Glassware of a kind used for table (other than drinking glasses)/kitchen purposes, other than of glass-
701342	Glassware of a kind used for table (other than drinking glasses)/kitchen purposes, other than of glass-
701391	Glassware of a kind used for table/kitchen/toilet/office/indoor decoration/similar purposes (excl. of
CER020	Interior
441900	Tableware & kitchenware, of wood
481420	Wallpaper & similar wall coverings, consisting of paper coated/covered, on the face side, with a
481490	Wallpaper&similar wall coverings(excl. of 4814.10&4814.20); window transparencies of paper.
570310	Carpets & other textile floor coverings, tufted, whether/not made up, of wool/fine animal hair
570390	Carpets & other textile floor coverings, tufted, whether/not made up, of textile materials other than wool/fine
570410	Tiles, of felt, not tufted/flocked, having a maximum surface area of 0.3 m ²
570500	Carpets & other textile floor coverings, n.e.s. in Ch.57, whether/not made up
580410	Tulles & other net fabrics (excl. woven/knitted/crocheted fabrics)
580421	Mechanically made lace in the piece/in strips/in motifs, other than fabrics of 60.02-60.06, of man-made fibres
580429	Mechanically made lace in the piece/in strips/in motifs, other than fabrics of 60.02-60.06, of other textile
590500	Textile wall coverings
691110	Tableware & kitchenware, of porcelain/china
691200	Ceramic tableware, kitchenware, other h-hold. articles & toilet articles other than of porcelain/china
691410	Ceramic articles of porcelain/china, n.e.s. in Ch.69
821510	Sets of assorted spoons, forks, ladles & similar kitchen/tableware articles containing at least one article plated
821520	Sets of assorted kitchen/tableware articles (excl. of 8215.10)
821591	Spoons, forks, ladles, skimmers, cake-servers, fish-knives, butter-knives, sugar tongs & similar
940320	Metal furniture (excl. of 94.01 & 94.02)
940340	Wooden furniture of a kind used in the kitchen
940350	Wooden furniture of a kind used in the bedroom
940360	Wooden furniture (excl. of 94.01 & 9403.30-9403.50)
940381	Furniture of bamboo/rattan.
940510	Chandeliers & other electric ceiling/wall lighting fittings (excl. those of a kind used for lighting public open
940530	Lighting sets of a kind used for Christmas trees
CER021	Jewellery
711311	Articles of jewellery & parts thereof, of silver, whether/not plated/clad with other precious metal
711319	Articles of jewellery & parts thereof, of other precious metal (excl. silver), whether/not plated/clad with
711320	Articles of jewellery & parts thereof, of base metal clad with precious metal
711411	Articles of goldsmiths'/silversmiths' wares & parts thereof, of silver, whether/not plated/clad with other
711419	Articles of goldsmiths'/silversmiths' wares & parts thereof, of other precious metal (excl. silver), whether/not
711420	Articles of goldsmiths'/silversmiths' wares & parts thereof, of base metal clad with precious metal
711610	Articles of natural/cultured pearls
711620	Articles of precious/semi-precious stones (natural/synthetic/reconstructed)
711711	Cuff-links & studs of base metal, whether/not plated with precious metal
711719	Imitation jewellery, of base metal, whether/not plated with precious metal, other than cuff-links & studs
CER022	Toys
950300	Tricycles, scooters, pedal cars & similar wheeled toys; dolls' carriages; dolls; other toys; reduced-size ("scale")
950420	Articles & accessories for billiards
950440	Playing cards
950490	Articles for funfair/table/parlour games (excl. playing cards), incl. pintables, special tables for casino games &
CER005	New media
CER023	Recorded media
852321	Magnetic media for the recording of sound/of other phenomena, but excl. products of Ch. 37., cards
852351	Semi-conductor media, solid-state non-volatile storage devices, for the recording of sound/of other
852352	Semi-conductor media, "Smart cards" for the recording of sound/of other phenomena, but excl. products of
852359	Other semi-conductor media, for the recording of sound/of other phenomena, but excl. products of Ch. 37.,
CER024	Video games
950410	Video games of a kind used with a television receiver
950430	Games other than video games/billiards, operated by coins/banknotes (paper currency)/discs/other similar

Code	Product
CER006	Performing arts
CER025	Musical instruments
830610	Bells, gongs & the like, non-electric, of base metal
920110	Upright pianos, incl. auto. pianos
920120	Grand pianos, incl. auto. pianos
920190	Harpsichords & other keyboard stringed instr. (excl. pianos)
920210	String musical instr. (e.g., violins, cellos) played with a bow
920290	String musical instr. (e.g., guitars, harps) n.e.s. in 92.02
920510	Brass-wind musical instr. (e.g., trumpets, trombones)
920590	Other wind musical instruments (eg. clarinets, trumpets, bagpipes), other than Brass-wind instruments.
920600	Percussion musical instr. (e.g., drums, xylophones, cymbals, castanets, maracas)
920710	Keyboard instr. other than accordions, the sound of which is produced/must be amplified, electrically
920790	Musical instr. (excl. keyboard instruments other than accordions), the sound of which is produced/must be
920810	Musical boxes
920890	Fairground organs, mechanical street organs, mechanical singing birds, musical saws, other musical instrm
CER026	Printed music
490400	Music, printed/in manuscript, whether/not bound/illustrated
CER007	Publishing
CER027	Books
490110	Printed books, brochures, leaflets & similar printed matter, in single sheets, whether/not folded
490191	Dictionaries & encyclopaedias, & serial instalments thereof
490199	Printed books, brochures, leaflets & similar printed matter (excl. dictionaries & encyclopaedias, & serial
490300	Children's picture/drawing/colouring books
CER028	Newspaper
480100	Newsprint, in rolls/sheets
490210	Newspapers, journals & periodicals, whether/not illustrated/containing advertising material, appearing at
490290	Newspapers, journals & periodicals, whether/not illustrated/containing advertising material, other than
CER029	Other printed matter
490510	Globes
490591	Maps & hydrographic/similar charts of all kinds, incl. atlases, topographical plans, printed, in book form
490599	Maps & hydrographic/similar charts of all kinds, wall maps, topographical plans & globes, printed, other than
490810	Transfers (decalcomanias), vitrifiable
490890	Transfers (decalcomanias) other than vitrifiable transfers
490900	Printed/illustrated postcards; printed cards bearing personal greetings/messages/announcements,
491000	Calendars of any kind, printed, incl. calendar blocks
491110	Trade advertising material, commercial catalogues & the like
CER008	Visual arts
CER030	Antiques
970400	Postage/revenue stamps, stamp-postmarks, first-day covers, postal stationery (stamped paper), & the like,
970500	Collections & collectors' pieces of
970600	Antiques of an age > one hundred years
CER031	Painting
970110	Paintings, drawings & pastels, executed entirely by hand (excl. drawings of 49.06 & other than hand-
970190	Collages & similar decorative plaques
970200	Original engravings, prints & lithographs
CER032	Photography
370510	Photographic plates & film, exposed & developed (excl. cinematographic film), for offset reproduction
370590	Photographic plates & film, exposed & developed, other than cinematographic film (excl. of 3705.10)
491191	Pictures, designs & photographs
CER033	Sculpture
392640	Statuettes & other ornamental articles, of plastics & other materials of 39.01-39.14
442010	Statuettes & other ornaments, of wood
691310	Statuettes & other ornamental ceramic articles, of porcelain/china
691390	Statuettes & other ornamental ceramic articles (excl. of porcelain/china)
830621	Statuettes & other ornaments, of base metal plated with precious metal
830629	Statuettes & other ornaments, of base metal (excl. of 8306.21)
970300	Original sculptures & statuary, in any material

Source: UNCTAD <http://unctadstat.unctad.org/EN/Classifications.html>

Appendix B: JRC-COIN overview of 40+ CCI indices

European Commission Joint Research Centre Econometrics and Applied Statistics Unit, Composite Indicators Research Group (JRC-COIN) Developed various composite indicators on cultural and creative cities to monitor cultural and creative sectors in European cities: Stano, Saisana, and Weziak-Bialowolska (2015) list the following:

- 1) Tourism;
- 2) Creative Output & Employment;
- 3) Cultural Capital & Participation;
- 4) Culture and recreation related Venues, Resources & Facilities;
- 5) Living conditions;
- 6) Transportation & Accessibility;
- 7) Globalization & Networks & Exchange;
- 8) Social Capital: Openness, Tolerance;
- 9) Human Capital, Talent & Education;
- 10) Government & Regulations: fundings and rule of law;
- 11) Economy;
- 12) Entrepreneurship;
- 13) Innovation & Research;
- 14) Technology & ICT;
- 15) Environment & Ecology; and
- 16) Input for the CCS.

	Country level	City level	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
ARC Creative City Index		✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓		✓	✓		
Florida's Creative Cities Index		✓		✓						✓	✓				✓			
2014 Global City Index		✓	✓			✓			✓	✓	✓		✓			✓		
Hong Kong Creativity Index		✓		✓	✓								✓	✓	✓			
The European Creativity Index	✓			✓	✓	✓				✓	✓	✓				✓		
Global Creativity Index	✓									✓	✓				✓			
Euro-Creativity Index	✓			✓						✓	✓				✓			
Global Power city Index		✓	✓			✓	✓	✓	✓		✓	✓	✓		✓		✓	
Creative Grid		✓		✓		✓			✓		✓	✓						✓
Creative Space Index (CSI)	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓
Smart Cities		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Cities of Opportunity		✓	✓		✓	✓	✓	✓	✓		✓		✓	✓	✓	✓	✓	
Composite Index of the Creative Economy	✓									✓				✓	✓	✓		
Landry's Creative City Index		✓		✓			✓		✓	✓	✓	✓		✓	✓			
Shift Index		✓						✓			✓	✓	✓			✓		
Cultural Life Index	✓			✓	✓	✓					✓					✓		
Global City Indicators		✓		✓			✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	
Quality of Living Survey		✓	✓				✓	✓			✓	✓	✓					✓
Intercultural Cities Index		✓			✓		✓		✓	✓	✓	✓	✓					
Sharple's Creativity Index		✓		✓	✓		✓			✓	✓				✓		✓	
World Knowledge Competitiveness Index	✓											✓	✓		✓	✓		
Creative Economy	✓	✓													✓	✓		
Creative Community Index	✓			✓	✓		✓		✓		✓	✓						✓

Source: Stano, Saisana, and Weziak-Bialowolska (2015)

Appendix C: Variables and Data used in the GCI

Florida et al. (2015) include the following variables and data used in the GCI:

Global technology

They use two variables for technology: R&D investment and innovation (patents).

Global R&D investment

This variable measures R&D investment as a share of economic output or GDP. R&D investment includes R&D expenditures for basic research, applied research, and experimental development. The data are from the World Bank's World Development Indicators¹⁸ for the period 2010–2012.

Global innovation

Our variable for global innovation is based on patent applications per million people. The data are from the World Development Indicators¹⁹ for the period 2010–2012.

The Global Technology Index

The Global Technology Index combines these two variables into a single measure. It is based on the ranks of the variables; a country must have a value for at least one of the two variables in order to create a Global Technology Index score. The correlation between R&D investment and global innovation is 0.569 and significant at the 1 percent level. It is worth noting that these variables differ from the 2011 version of the index which was based on R&D investment as a share of GDP, researchers per capita and granted patents per capita (based on data from the USPTO).

Global talent

We employ two measures of talent — one that captures the creative class, the other based on educational attainment.

Global creative class

The creative class measure is calculated as the share of a country's labour force that is engaged in creative occupations spanning computer science and mathematics; architecture, engineering; life, physical, and the social sciences; education, training, and library science; arts and design, entertainment, sports, and media; and management, business and finance, law, sales management, and healthcare. It is based on data from the International Labour Organisation, covering the years 2010 to 2012 (except for Singapore and New Zealand, where the values are for the period 2004–2007).²⁰

Global educational attainment

This variable is based on participation in post-secondary education. We use the standard measure of “tertiary education” which includes universities, colleges, community colleges, technical training

18 World Bank, 2010–2012 World Development Indicators Online (WDI) database,

<http://data.worldbank.org/indicator/GB.XPD.RSDV.GD.ZS>

19 World Bank, 2010–2012 World Development Indicators Online (WDI) database, <http://data.worldbank.org/indicator/IP.PAT.NRES/countries/1W?display=graph>

20 International Labour Organization, 2010–2012, <http://laborsta.ilo.org/>

institutes, and other post-secondary institutions. Specifically, we use the conventional measure of the “gross tertiary enrollment ratio,” which is the ratio of all those involved in tertiary education compared to the age group spanning five years after leaving secondary school. The data are from World Development Indicators for the period 2010 to 2012.²¹

The Global Talent Index

The talent index combines these two variables in a single index based on the rank of each. The correlation between the creative class and educational attainment variables is 0,637.

Global tolerance

We employ two measures of tolerance based on surveys of attitudes towards ethnic and racial minorities and gay and lesbian people.

Global tolerance towards ethnic and racial minorities

The variable is based on the survey question “Is your city or area a good or bad place to be in for ethnic and racial minorities?” conducted by the Gallup Organisation’s World Poll. Our measure reflects the share of the respondents who said their’s is a good place for these groups. According to Gallup, the World Poll survey is based on approximately 1,000 interviews per country (adjusted for population size) conducted in approximately 150 countries. The data are for 2014.

Global tolerance towards gay and lesbian people

This variable is based on the Gallup World Poll question “Is your city or area a good or bad place to be in for gay and lesbian people?” Our measure reflects the share of the respondents who said their’s is a good place. The data are for 2012.

The Global Tolerance Index

The tolerance index is based on the two measures above. Based on their ranks, the two variables are equally weighted into the tolerance index. The two variables correlate by 0.286 and are significant at the 1 percent level. A country must have a value for at least one of the two tolerance variables to receive a Global Tolerance Index score.

The Global Creativity Index

The GCI is a composite of the 3Ts. It is based on the ranks of the each of the three overall indexes for talent, technology, and tolerance. We ranked each by giving the highest value to the top performer. We then added the ranks together and divided by three. In cases where a value for only two of the three variables was available, these two were added and divided by two. To create the GCI score, the average score of the 3Ts was divided by the number of observations overall.

Economic and social development measures

We employ the following measures of economic and social development:

21 World Bank, 2010–2012 World Development Indicators Online (WDI) database, <http://data.worldbank.org/indicator/SE.TER.ENRR?display=graph>

Economic Output/Productivity

We employ the conventional measure of productivity based on economic output per person and measured as GDP per capita. The value is an average for the years 2010 to 2012 from World Development Indicators.²²;

Economic competitiveness

We use the Global Competitiveness Index developed by Michael Porter for the World Economic Forum.²³ It is based on the following categories: basic requirements (including institutions, infrastructure, macroeconomic stability, health, and primary education), efficiency enhancers (including higher education and training, goods market efficiency, labour market efficiency, financial market sophistication, technological readiness, and market size), and innovation factors (including business sophistication and innovation).

Global entrepreneurship

This variable is from the most recent Global Entrepreneurship Index by Zoltan Acs, Laszlo Szerb, and Erkkö Autio.²⁴ The index is based on several measures of entrepreneurial attitudes, activity, and aspiration.

Human development

This variable is from the most recent edition of the UN Human Development Index, a composite measure which aims to capture three core dimensions of human development: health and measured life expectancy, education level, and standard of living.²⁵;

Urbanization

This variable is the urban share of population. It is based on data from the World Bank's World Development Indicators.²⁶ It is calculated using World Bank population estimates and urban ratios from the UN World Urbanization Prospects.

Income inequality

This variable is based on the standard measure of income inequality — the Gini Coefficient — which measures the extent to which the distribution of income among individuals or households within an economy deviates from a perfectly equal distribution. A Gini Coefficient of zero represents absolute equality, while an index of 100 implies absolute inequality. The data is from the World Development Indicators and is an average for the years 2004–2013.²⁷;

22 World Bank, 2010–2012 World Development Indicators Online (WDI) database, <http://data.worldbank.org/indicator/SE.TER.ENRR?display=graph>

23 World Economic Forum, 2014–2015 <http://www.weforum.org/reports/global-competitiveness-report-2014-2015>

24 Global Entrepreneurship Index, 2015.

25 United Nations, 2014. <http://hdr.undp.org/en/content/human-development-report-2014>

26 World Bank, 2010–2012 <http://data.worldbank.org/indicator/GB.XPD.RSDV.GD.ZS>

27 World Bank, 2004–2013 <http://data.worldbank.org/indicator>

Appendix D: Definition and scope of CCIs

A vitally important first step in developing a CCI Index is to define the scope of cultural and/or creative industries. Moore (2014) identifies a variety of terms that have been used to describe CCIs or its components including: the “creative sector”, “copyright industries”, “content industries”, “experience economy”, “creative business sector”, “art centric business”, “cultural and communication industries”, “media industries” and “knowledge economies”. According to Heng et al (2003, 3) there are three common approaches to defining the scope of the creative cluster:

1. Cultural industries
2. Creative industries; and
3. Copyright industries.

The definition of what comprises a cultural industry is therefore discussed first.

Definition of Cultural Industries

Anthropologically culture²⁸ is the sum total of ways of living built up by a group of human beings and transmitted from one generation to another. Culture has always been regarded as a product resulting from a symbolic performance of individuals, characteristic of the whole of human society as well as the internal feature of humanity. Tylor (1974) defines culture as "that complex whole which includes knowledge, belief, art, morals, law, custom and any other capabilities and habits acquired by man as a member of society."

Culture and the economy

Economically speaking, the “cultural sector” covers for the study visual arts, performing arts and heritage. Australia (1994) defined culture more broadly than earlier conceptions, by including film, radio, libraries and more. These are referred to as “cultural industries” (film and video, video-games broadcasting, music, book, and press publishing). The “creative sector”, is defined as using cultural input to produce non-cultural goods and covers design, architecture, and advertising. Related industries, which are dependent on the two above-mentioned, are also considered.

According to Hartley (2008) the term “creative industries” was introduced by the UK DCMS in 1990, which focused on the industry itself by referring to firms whose outputs were considered creative. A major contribution by DCMS was to move the concept away from its association only with activities with a strong artistic component, to any activity producing symbolic products, and relying on IP. These activities included advertising, film and video, architecture, music, art and antique markets, performing arts, computer and video games, publishing, crafts, software, design, television and radio, and designer fashion. According to this first definition, the creative industries are based on individual creativity, skill and talent.

Chapter 1: ²⁸ "The Definition of Culture". 2017. *Dictionary.Com*. Accessed February 27 2017.
<http://www.dictionary.com/browse/culture?s=t>.



Source: (Policy Research Group 2013, 14)

In a second phase, which according to Hartley (2008) is taking place now, the focus has widened from creative output to the whole economy, taking into account how creative inputs add value to businesses which are not considered creative, in particular in the services sector. In a third phase (emergent), which is being developed in parallel to the extension of digital media into popular culture, the focus is shifting to user-created content and open networks. Creativity is now seen as a collective process. The focus has been changing from a supply-driven approach to a demand-driven one. Consequently, any model to access creativity and its impact on innovation should incorporate variables that are not only supply but also demand oriented.

What is now defined as the creative sector is developing at a higher pace than other economic sectors. Employment is not only growing at a high pace but the sector also offers a high share of highly skilled jobs. The creative sector is estimated to account for more than 7 % of the world's domestic product (World Bank, 2003) and is expected to grow by 10% per year (Price Waterhouse Coopers, 2003). The creative industries represent a leading sector in many OECD countries, with annual growth rates between 5 to 20% (EESC, 2003) and having a positive impact on trade. Moreover, the creative industries produce significant economic spin-offs and promote integration between technology, arts, and business.

Cultural and creative industries

Restrepo et al (2013) lament that the discussions about how define the economy and culture are endless and frequently emotional. This has resulted in cultural industries; creative industries; leisure industries; entertainment industries; content industries; copyright protected industries; cultural economy; and creative economy being used as terms to describe the relationship. Unfortunately, each one of these terms has numerous and diverse definitions.

Although the term “cultural industries” is almost interchangeable with the concept of “creative industries”, Unesco (2005) also draws a distinction between cultural industries and creative industries. “Cultural industries” include those industries who derive their inspiration from heritage, traditional knowledge, and the artistic elements of creativity. On the other hand, with “creative industries” it is the individual's creativity, innovation, skill, and talent (together with IP) is more important.

In 2002, Unesco through the Global Alliance for Cultural Diversity (GACD) initiated a process that was aimed at the development and promotion of public policies of the creative industries. It also collaborates with other United Nations specialised agencies: (UNCTAD, 2008), Unesco's Institute for Statistics (UIS, 2005), and the World Intellectual Property Organisation (WIPO, 2003).

Unesco's 2005 Convention

In 2005 at its 33rd session the General Conference of Unesco in Paris a number of related definitions were adopted including:

1. Cultural diversity

“Cultural diversity” refers to the manifold ways in which the cultures of groups and societies find expression. These expressions are passed on within and among groups and societies. Cultural diversity is made manifest not only through the varied ways in which the cultural heritage of humanity is expressed, augmented and transmitted through the variety of cultural expressions, but also through diverse modes of artistic creation, production, dissemination, distribution and enjoyment, whatever the means and technologies used.

2. Cultural content

“Cultural content” refers to the symbolic meaning, artistic dimension and cultural values that originate from or express cultural identities.

3. Cultural expressions

“Cultural expressions” are those expressions that result from the creativity of individuals, groups and societies, and that have cultural content.

4. Cultural activities, goods and services

“Cultural activities, goods and services” refers to those activities, goods and services, which at the time they are considered as a specific attribute, use or purpose, embody or convey cultural expressions, irrespective of the commercial value they may have. Cultural activities may be an end in themselves, or they may contribute to the production of cultural goods and services.

5. Cultural industries

“Cultural industries” refers to industries producing and distributing cultural goods or services as defined in 4 above.

Non-UN Agency definitions

Other international organisations non-UN agencies are also concerned with the development of strategic approaches to address the creative economy. These include the OECD, (2007), the Inter-American Development Bank (Quartesan, Romis, and Lanzafame 2007), the European Union (represented by various institutions and bodies including the European Commission), and the Leadership Group on Cultural Statistics (Policy Research Group 2013, 15–16).

A sound, clear and more importantly a universally accepted definition is critical in the development of a CCI index. There have been numerous attempts at trying to define these various concepts. These are discussed below.

Department of Culture, Media, and Sports of the United Kingdom (DCMS)

According to the Policy Research Group (2013, 12) “[t]he term ‘creative industries’ first appeared in an economic study, the Creative Industries Mapping Document (DCMS/CITF, 1998), completed by the Creative Industries Task Force (CITF) on behalf of the UK’s DCMS.” The UK’s CITF (1997) defined creative industries as “those industries that have their origin in individual creativity, skill and talent and which have a potential for wealth and job creation through the generation and exploitation of intellectual property”.

DCMS originally defined creative industries as industries that are “based on individual creativity, skill and talent,” and which have “potential for wealth and job creation through the generation and exploitation of intellectual property” (DCMS/CITF, 1998: 3, DCMS/CITF, 2001: 5). These industries bring together thirteen areas of activity:

- Advertising;
- Architecture;
- Arts and antiques;
- Handicrafts;
- Design;
- Fashion;
- Cinema production;
- Leisure software, (specifically, video games);
- Music;
- The performing arts;
- Publishing;
- Software engineering; and
- Radio and television.

The area covered is large and eclectic, but it is nevertheless exclusive; heritage, for example, is not included in the list. Subsequently, between 1998 and 2006, orientation documents produced by DCMS/CITF surveyed the variable number of creative sectors, modifications made within the original conceptual framework essentially summarising the reorganisation of certain groupings. The origin of the concept was essentially political and a strategic “vision” made creative industries an economic sector in their own right, officially categorised according to a “SIC Code.”

The DCMS (BOP Consulting et al. 2010) summarise the concept of creative industries as those activities based on creativity, individual talent, and skill, and that have the potential to create jobs and wealth through the generation and exploitation of IP.

Appendix E: Factors included under technology

- Expenditure of scientific and technological activities
- The external capital investment
- The introduction level of risk investment
- The level of research and development funding
- Culture creative talents learning cost level
- Creative purchase cost level
- The level of creative product margins
- The number of science and technology activities personnel
- The number of units of the research activities
- The average annual number of patent license
- The average annual number of creative produce
- Success rate of creativity put into operation
- Market competitiveness of creative product
- Domestic leading level of creative
- Efficient use of IT

Appendix F: Factors included under heritage

- Number of Unesco heritage sites
- Number of national sites heritage sites (not included above)
- Number of provincial and municipal heritage sites (not included above)
- Applications under SAHRA
- Infrastructure construction
- Soft environment facilities construction
- Public products and service provision

Appendix G: Cultural Life Index

Cultural life Index would weight the performance of nations in terms of availability of

- Cultural resources (for example, number of symphonies, number of museums, TV sets, computers, etc. per 1000 population);
- Cultural participation (for example, number of admissions to cinema houses per 1000 population, tickets sold to theatrical performances, materials borrowed from libraries, etc. per 1000 population); and
- Production (number of feature films produced, number of web hosts, number of domestic audio recordings, etc. per 1000 population).

The three sub-indices are important because they show differences in whether certain cultural resources are even available, on the use of available resources by the public, and of the extent to which cultural resources are domestic.

variety of indicators could potentially be used drawn from relevant indicators of the information society, general indicators of cultural activities and materials, and indicators of media.

Cultural resources Sub-Index

Indicators that could be included to create the sub-index include:

- number of concert hall, festivals, and music organisations per 1000 population;
- number of performances at concert hall, festivals and music organisations per 1000 population;
- number of dance companies and organisations per 1000 population;
- number of performance by dance companies and organisations per 1000 population;
- number of theatres per 1000 population;
- number of theatre companies per 1000 population;
- number of performances by theatre companies per 1000 population;
- number of fine arts institutions and galleries per 1000 population;
- number of permanent fine arts exhibitions per 1000 population;
- number of temporary fine arts exhibitions per 1000 population;
- number of museums per 1000 population;
- number of other cultural heritage sites per 1000 population;
- number of libraries per 1000 population;
- number of items in libraries' collections per 1000 population;
- number of institutions of higher education per 1000 population;
- number of institutions of secondary education per 1000 population;
- number of institutions of primary education per 1000 population;
- number of newspaper titles per 1000 population;
- number of magazine titles per 1000 population;
- number of titles published per 1000 population;
- number of radio channels per 1000 population;
- number of radio receivers per 1000 population;
- number of television channels per 1000 population;
- number of television receivers per 1000 population;
- number of cinema screens per 1000 population;
- number of cinema titles shown per 1000 population;
- number of audio recordings produced per 1000 population;
- number of audio recording copies produced per 1000 population;
- number of personal computers per 1000 population;
- number of Internet service providers per 1000 population;

- number of Internet hosts per 1000 population;
- number of web pages per 1000 population;

Cultural Participation Sub-Index

Indicators that could be included to create the sub-index include:

- number of admissions to performances in concert halls, festivals, and by music organisation per 1000 population;
- number of admissions to performances by dance companies and organisations per 1000 population;
- number of admissions to theatrical performances per 1000 population;
- number of admissions or visitors to fine arts institutions or galleries per 1000 population;
- number of admissions or visitors to museums per 1000 population;
- number of admissions or visitors to other cultural heritage sites per 1000 population;
- number of registered library users per 1000 population;
- number of library items lent to users per 1000 population;
- number of students in institutions of higher education per 1000 population;
- number of students in secondary education institutions per 1000 population;
- number of students in primary education institutions per 1000 population;
- newspaper circulation per 1000 population;
- magazine circulation per 1000 population;
- number of book copies published per 1000 population;
- number of radio receivers per 1000 population;
- number of TV receivers per 1000 population;
- number of television licenses per 1000 population;
- number of cinema admissions per 1000 population;
- number of copies of audio recordings produced per 1000 population;
- number of Internet users per 1000 population.

Cultural Production Sub-Index

Indicators that could be included to create the sub-index include:

- number of copies of newspapers published per 1000 population;
- number of copies of magazines published per 1000 population;
- number of copies of domestic books published per 1000 population;
- number of hours of radio broadcasts per 1000 population;
- number of domestically produced hours of television programme broadcasts per 1000 population;
- number of number of feature films produced per 1000 population;
- number of domestic audio recording produced per 1000 population;
- number of copies of domestic audio recordings produced per 1000 population;
- number of web hosts per 1000 population;
- number of web pages per 1000 population.

General Indicators of the Information Society

Important indicators are:

Electrification;

- percent of country in which electricity is available;
- number of hookups per 1000 population;
- average consumption (kilowatt hours);

- average electricity consumption cost;
- average electric expenditures per household.

Telephony

- percent of country in which telephony is available;
- broadband as percentage of total telephone line;
- number of fixed lines per 1000 population;
- number of mobile lines per 1000;
- average telephone call cost;
- average telephony expenditures per household;
- international Internet bandwidth.

Computers and Internet

- personal computers per 1000 population;
- personal computers in educational institutions;
- percent of networked personal computers;
- number of internet service (ISPs) providers;
- number of ISPs per 1000 population;
- number of hosts;
- number of hosts per 1000 population;
- number of web pages;
- number of web pages per 1000 population.

Internet Access and Use

- number of internet users;
- internet users per 1000 population;
- number of broadband subscribers;
- number of broadband subscribers per 1000 population;
- internet access costs;
- average internet use expenditures.

Overall Expenditures

- ICT expenditures as percent of GDP;
- ICT expenditures per capita.

Indicators for Cultural Activities and Materials

The focus of indicators suggested here is on institutions, organisations, and central activities in to the cultural sector.

Pickard et al. (2003, 10) adopted a definition that included music, dance, theatre, fine arts, cultural heritage, libraries, games, and culture sector education. The authors specifically excluded media (print, broadcast, recorded, online, and cinema). They excluded those by cultural organisations and institutions] to avoid double counting because they are covered in the media section.

Dance

- Number of dance companies and organisations;
- Number of performances by dance companies and organisations;
- Number of tickets sold;
- Total number of admissions;

- Number of dance companies and organisations that operate Internet sites for information, marketing purposes and percent of total;
- Number of CD or CD-ROM titles internally produced or commissioned by dance companies and organisations;
- Number of dance companies and organisations that internally produced or commissioned CDs or CD-ROMs and percent of total theatres or theatre companies;
- Number of DVD titles internally produced or commissioned by dance companies and organisations;
- Number of dance companies and organisations that internally produced or commissioned DVDs and percent of total theatres or theatre companies;
- Number of other ICT material titles internally produced or commissioned by dance companies and organisations;
- Number of dance companies and organisations that internally produced or commissioned or other ICT materials and percent of total theatres or theatre companies;
- Number of dance companies and organisations providing online ticket reservations or sales and percent of total reservations or sales;
- Number of dance companies' and organisations' tickets reserved online and percent of total reservations;
- Number of dance companies and organisations tickets purchased online and percent of total sales;
- Number of dance companies and organisations providing ticket reservations or sales through mobile phone systems and percent of total • Number of dance companies and organisations tickets reserved by mobile phone systems and percent of total reservations;
- Number of dance companies and organisations tickets purchased by mobile phone systems and percent of total sales;
- Expenditures for ICT systems and material for internal use and percent of total expenditures of expenditures of dance companies;
- Expenditures for producing ICT systems and materials for public use and percent of total expenditures of dance companies;
- Number of persons employed who regularly work with ICT systems and materials and percent of total employees.
- Subsidies or grants provided for producing ICT systems and materials for public use and percent of total grants provided to dance companies;
- Revenues from sales of digital rights and royalties and percentage of total revenue;
- Revenue from internally produced or commissioned CD titles sold and percentage of total revenue;
- Revenue from internally CD-ROMs sold and percentage of total revenue;
- Revenues from internally produced or commissioned DVD titles sold and percentage of total revenue;
- Revenue from online ticket sales and percentage of total revenue;
- Revenue from mobile phone based ticket sales and percentage of total revenue.

Theatre

- Number of theatres or theatre companies;
- Number of theatrical performances;
- Number of tickets sold;
- Total number of admissions;
- Number of theatres or theatre companies that operate Internet sites for information, marketing purposes and percent of total theatres or theatre companies;

- Number of theatres or theatre companies that internally produced or commissioned CDs or CD ROMs and percent of total theatres or theatre companies;
- Number of theatres or theatre companies that internally produced or commissioned DVDs and percent of total theatres or theatre companies;
- Number of theatres or theatre companies that internally produced or commissioned other ICT materials and percent of total theatres or theatre companies;
- Expenditures for ICT systems and material for internal use and percent of total theatres or theatre companies' expenditures;
- Expenditures for producing ICT systems and materials for public use and percent of total theatres or theatre companies' expenditures;
- Number of persons employed who regularly work with ICT systems and materials and percent of total employees.
- Subsidies or grants provided for producing ICT systems and materials for public use and percent of total grants provided to theatres or theatre companies;
- Number of theatres or theatre companies providing online ticket reservations or sales and percent of total reservations or sales;
- Number of theatres or theatre companies' tickets reserved online and percent of total reservations;
- Number of theatres or theatre companies tickets purchased online and percent of total sales;
- Number of theatres or theatre companies providing ticket reservations or sales through mobile phone systems and percent of total
- Number of theatres or theatre companies tickets reserved by mobile phone systems and percent of total reservations;
- Number of theatres or theatre companies tickets purchased by mobile phone systems and percent of total sales;
- Revenues from sales of digital rights and royalties and percentage of total revenue;
- Revenue from internally produced or commissioned CD titles sold and percentage of total revenue;
- Revenue from internally produced or commissioned CD-ROMs sold and percentage of total revenue;
- Revenues from internally produced or commissioned DVD titles sold and percentage of total revenue;
- Revenue from online ticket sales and percentage of total revenue;
- Revenue from mobile phone based ticket sales and percentage of total revenue.

Fine Arts;

- Number of fine arts institutions and galleries;
- Number of permanent exhibitions;
- Number of temporary exhibitions hosted;
- Number of tickets sold;
- Total number of admissions;
- Number of fine arts institutions and galleries that operate Internet sites for information, marketing purposes and percent of total fine arts institutions and galleries;
- Number of fine arts institutions and galleries with electronic cataloguing systems and percent of total fine arts institutions and galleries;
- Number of fine arts institutions and galleries providing remote catalogue access and percent of total fine arts institutions and galleries;
- Number of fine arts institutions and galleries providing multimedia and electronic guides and percent of total fine arts institutions and galleries;

- Number of fine arts institutions and galleries providing access to collections through Internet sites and percent of total fine arts institutions and galleries;
- Number of arts institutions and galleries that internally produced or commissioned CDs or CDROMs and percent of total theatres or theatre companies;
- Number of arts institutions and galleries that internally produced or commissioned DVDs and percent of total theatres or theatre companies;
- Number of arts institutions and galleries that internally produced or commissioned other ICT materials and percent of total theatres or theatre companies;
- Number of institutions and galleries providing online ticket reservations or sales and percent of total reservations or sales;
- Number of institutions and galleries tickets reserved online and percent of total reservations;
- Number of institutions and galleries tickets purchased online and percent of total sales;
- Number of institutions and galleries providing ticket reservations or sales through mobile phone systems and percent of total;
- Number of institutions and galleries tickets reserved by mobile phone systems and percent of total reservations;
- Number of institutions and galleries tickets purchased by mobile phone systems and percent of total sales;
- Expenditures for ICT systems and material for internal use and percent of total expenditures of fine arts companies;
- Expenditures for producing ICT systems and materials for public use and percent of total expenditures of fine arts companies;
- Number of persons employed who regularly work with ICT systems and materials and percent of total employees.
- Subsidies or grants provided for producing ICT systems and materials for public use and percent of total grants provided to fine arts companies;
- Revenues from sales of digital rights and royalties and percentage of total revenue;
- Revenue from internally produced or commissioned CD titles sold and percentage of total revenue;
- Revenue from internally produced or commissioned CD-ROMs sold and percentage of total revenue;
- Revenues from internally produced or commissioned DVD titles sold and percentage of total revenue;
- Revenue from online ticket sales and percentage of total revenue;
- Revenue from mobile phone based ticket sales and percentage.

Cultural Heritage;

- Number of museums;
- Number of other cultural heritage sites;
- Number of tickets sold for admissions;
- Total number of admissions;
- Number of museums that operate Internet sites for information, marketing purposes and percent of total museums;
- Number of museums providing access to collections through Internet sites and percent of total museums;
- Number of museums providing multimedia and electronic guides;
- Number of museums that produced CDs or CDROMs and percent of total museums;
- Number of museums that produced DVDs and percent of total museums;
- Number of museums that produced or other ICT materials and percent of total museums;

- Expenditures for ICT systems and material for internal use and percent of total museum expenditures;
- Expenditures for producing ICT systems and materials for public use and percent of total museum expenditures;
- Subsidies or grants provided for producing ICT systems and materials for public use and percent of total grants provided to museums;
- Number of museums providing online ticket reservations or sales and percent of total museums;
- Number of museum tickets reserved online and percent of total reservations;
- Number of museum tickets purchased online and percent of total sales;
- Number of museums providing ticket reservations or sales through mobile phone systems and percent of total museums;
- Number of museum tickets reserved by mobile phone systems and percent of total reservations;
- Number of museum tickets purchased by mobile phone systems and percent of total sales;
- Number of other cultural heritage sites or institutions that operate Internet sites for information, marketing and percent of total sites or institutions;
- Number of other cultural heritage sites or institutions providing multimedia and electronic guides;
- Number of other cultural heritage sites or institutions that internally produced or commissioned CDs or CD-ROMs and percent of total sites or institutions;
- Number of other cultural heritage sites or institutions that internally produced or commissioned DVD and percent of total sites and institutions;
- Number of other cultural heritage sites or institutions that internally produced or commissioned other ICT materials and percent of total sites and;
- institutions;
- Expenditures for ICT systems and material for internal use and percent of total museum expenditures;
- Expenditures for producing ICT systems and materials for public use and percent of total expenditures for cultural heritage sites and institutions;
- Number of persons employed who regularly work with ICT systems and materials and percent of total employees.
- Subsidies or grants provided for producing ICT systems and materials for public use and percent of total grants provided to cultural heritage sites and institutions;
- Number of other cultural heritage sites or institutions providing online ticket reservations or sales and percent of total sites or institutions;
- Number of tickets reserved online and percent of total reservations;
- Number of tickets purchased online and percent of total reservations;
- Number of museums providing ticket reservations or sales through mobile phone systems and percent of total museums;
- Number of museum tickets reserved by mobile phone systems and percent of total reservations;
- Number of museum tickets purchased by mobile phone systems and percent of total sales;
- Revenues from sales of digital rights and percentage of total revenue;
- Revenue from internally produced or commissioned CD titles sold and percentage of total revenue;
- Revenue from internally produced or commissioned CD-ROMs sold and percentage of total revenue;
- Revenues from internally produced or commissioned DVD titles sold and percentage of total revenue;
- Revenue from online ticket sales and percentage of total revenue;

- Revenue from mobile phone based ticket sales and percentage of total revenue.

Libraries;

- Number of libraries;
 - Number of items in collections;
 - Number of users;
 - Number of items lent;
 - Number of libraries with electronic cataloguing systems;
 - Number of libraries providing remote catalogue access;
 - Number of libraries providing material reservations through ICT systems;
 - Number of libraries providing remote lending services based on ICT;
 - Number of libraries providing remote access to collection materials and services (databases, video, audio);
 - Number of computers available for public use to use materials in collections;
 - Number of computers available for public use for Internet;
 - Number of CDs in collections and percent of total items;
 - Number of CD-ROMs in collections and percent of total items;
 - Number of DVDs in collections and percent of total items;
 - Number of software items in collections and percent of total items;
 - Number of other ICT materials in collections and percent of total items;
 - Total lending of CDs and percent of total items lent;
 - Total lending of CD-ROMs and percent of total items lent;
 - Total lending of DVDs and percent of total items lent;
 - Total lending of software products and percent of total items lent;
 - Total lending of other ICT materials and percent of total items lent;
 - Expenditures for ICT systems and material for internal use and percent of total expenditures of libraries;
 - Expenditures for producing ICT systems and materials for public use and percent of total expenditures of libraries;
 - Number of persons employed who regularly work with ICT systems and materials and percent of total employees.
 - Subsidies or grants provided for producing ICT systems and materials for public use and percent of total grants provided to libraries.

Education;

- ☐ Number of institutions of higher education;
- ☐ Number of institutions of secondary education;
- ☐ Number of institutions of primary education;
- ☐ Number of students enrolled in higher education institutions;
- ☐ Number of students enrolled in secondary education institutions;
- ☐ Number of students enrolled in primary education institutions;
- ☐ Number of institutions providing Internet courses and percent of the total institutions and course;
- ☐ Number of students participating in Internet courses and percent of the total;
- ☐ Number of institutions providing courses through remote video systems and percent of the total institutions and courses;
- ☐ Number of students participating in remote video system courses and percent of the total;
- ☐ Number of institutions providing courses via television or radio and percent of total institutions and courses;
- ☐ Number of students participating in TV/Radio courses and percent of the total;

- ❑ Number of CD or CD-ROM titles produced by educational institutions;
- ❑ Number of institutions that produced CDs or CD-ROMs and percent of total;
- ❑ Number of DVD titles produced by educational institutions
- ❑ Number of educational institutions that produced DVDs and percent of total;
- ❑ Number of institutions that produced or other ICT materials and percent of total;
- ❑ Expenditures for ICT systems and material for internal use and percent of total expenditures of educational institutions;
- ❑ Expenditures for producing ICT systems and materials for public use and percent of total expenditures of educational institutions;
- ❑ Subsidies or grants provided for producing ICT systems and materials for public use and percent of total grants provided to educational institutions;
- ❑ Revenues from sales of digital rights and royalties and percentage of total revenue;
- ❑ Revenue from internally produced or commissioned CD titles sold and percentage of total revenue;
- ❑ Revenue from internally produced or commissioned CD-ROMs sold and percentage of total revenue;
- ❑ Revenues from internally produced or commissioned DVD titles sold and percentage of total revenue.

Indicators of Media Products

Newspapers

- ❑ number of titles;
- ❑ number of newspaper titles per 1000 population;
- ❑ newspapers circulation per 1000 population;
- ❑ number of online editions or other Internet sites; and
- ❑ revenue from sales.

Magazines

- ❑ number of titles;
- ❑ number of magazine titles per 1000 population;
- ❑ magazine circulation per 1000 population;
- ❑ number of online editions;
- ❑ revenue from sales; and
- ❑ number of magazines with Internet sites.

Books

- ❑ number of titles published;
- ❑ number of titles published per 1000 population;
- ❑ number of copies published per 1000 population;
- ❑ number of e-book titles produced;
- ❑ number of recorded book titles produced;
- ❑ revenue from sales;
- ❑ number of internet retailers;
- ❑ number of internet second-hand retailers;
- ❑ number of internet book clubs; and
- ❑ number of book publishers with Internet sites.

Radio

- ☐ number of radio channels;
- ☐ number of radio channels per 1000 population;
- ☐ number of radio receivers per 1000 population;
- ☐ number of Internet radio stations; and
- ☐ number of radio stations with Internet sites.

Television

- ☐ number of television channels;
- ☐ number of digital television channels;
- ☐ number of return channels (interactive television);
- ☐ number of television channels per 1000 population;
- ☐ number of television channels per 1000 population;
- ☐ number of Internet television providers;
- ☐ number of television channels with Internet sites; and
- ☐ revenues from interactive television.

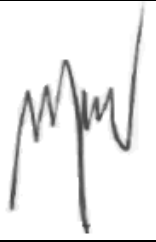
Cinema and Video

- ☐ number of cinema halls;
- ☐ number of cinema halls per 1000 population;
- ☐ number of screens;
- ☐ number of screens per 1000 population;
- ☐ number of seats;
- ☐ number of seats per 1000 population;
- ☐ number of feature films produced;
- ☐ number of number of feature films produced per 1000 population;
- ☐ number of admissions;
- ☐ number of admissions per 1000 population;
- ☐ average admission cost;
- ☐ revenue from admission; and
- ☐ revenue from sales and rental of video.

Audio Recordings

- ☐ number of audio recordings produced;
- ☐ number of audio recordings produced per 1000 population;
- ☐ number of copies produced;
- ☐ number of copies produced per 1000 population;
- ☐ number of retailers;
- ☐ number of Internet retailers and commercial download services;
- ☐ revenue from sales; and
- ☐ revenue from online sales/rental.

APPROVALS FOR THE SOUTH AFRICAN CULTURAL OBSERVATORY RESEARCH REPORT: A Creative and Cultural Industry Index for South Africa

	NAME	TITLE	SIGNATURE	DATE
Prepared and recommended by:	Prof. Richard Haines	CEO		20/03/2017
Submitted by:	Mphikeleli Mnguni	Research Officer		4/4/2017
Recommended by:	Charles Mabaso	Chief Director		4/4/2017
Approved by:	Monica Newton	Deputy Director General		4.4.2017