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Exploring Interdependence in Tourism Economic Development Ecosystems

Peta Thomas[1]

Abstract: Ecosystems represent complex interrelated systems monitored by economic indicators. To maximise future desired economic performance, resilience within the economic ecosystem leads to its long-term sustainability. The aim of this article is to review how resilience could be achieved for a tourism economic ecosystem to disruptive change. Resilience is a concept that defines business and government's ability to adapt to economic disruptive change. Resilience for tourism entails ensuring the sustainability of an economic ecosystem to delineate future growth of that destination. The research is descriptive and conceptual in nature, adopting a qualitative research approach. A map of a tourism ecosystem is proposed reliant on economic indicator interpretation to realistically put forward future economic development strategies that promote overall system resilience towards economic growth. Researchers with a specific interest in tourism ecosystems may find this paper useful in understanding the complexity of interpreting economic indicators to develop future economic growth opportunities.

Keywords: South Africa; Ecosystem; Tourism; Resilience

JEL Classification: M21

1. Introduction

Tourism is seen by many countries as an important driver for economic growth (Navickas & Malakauskaite, 2009; Mafini, Loury-Okoumba & Pooe, 2016; UNWTO, 2020) having for business start-ups, lower barriers for entry than other types of industry. The United Nations World Tourism Organisation (UNWTO, 2019) reports year-on-year increasing numbers of tourist arrivals in most geographic regions it monitors in excess of 4% per annum suggesting continued opportunities for new tourism business.

2. Research Methodology

The methodology is qualitative and descriptive in nature by way of a literature study. Secondary data from relevant academic articles, government reports and other respected literature sources, were consulted. Discreet research techniques were applied that did not require the researcher to interface in the research context with participants instead analysing credible texts available in the public domain (Auriacombe 2016, p. 6). Conceptual analysis of the role of an ecosystem in tourism development leading to economic growth is applied in this article. To enable the conceptualisation of a tourism

[1] Department of Business Management, Johannesburg Business School, College of Business and Economics, University of Johannesburg, Auckland Park campus, Johannesburg, South Africa, Corresponding author: pthomas@uj.ac.za

economic development ecosystem (EDE), a definition of the concept of an ecosystem is first given. Then literature is consulted as to the interdependence between elements of a tourism EDE exploring the meaning of an ecosystem and its variable relationships as often measured by indicators. In this way, relevant applicable "concepts, assumptions, expectations, beliefs, and theories" inform the analysis and consequent discussion (Auriacombe 2016, p. 5).

The search for relevant secondary data included the following inclusion criteria:

- Regarded as analyses of reliable and valid economic data by the global tourism community;
- Regarded as analyses of reliable and valid economic data by South African tourism stakeholders;
- Indicating the effects of the relationship between tourism economic growth and the interdependence of various elements of the sub-systems of a tourism EDE, to create resilience in the face of disruptive forces.

3. Review of Literature

First, the concept of considering the performance of an industry and in this instance, the tourism industry, is unpacked in terms of being an integrated set of highly related systems (an ecosystem) that produces economic growth when healthy. Then this literature reviews economic indicators typically drawn upon by tourism policy makers to devise future national tourism strategic direction. A case study of a sub system of the global tourism EDE is used - South Africa is drawn upon as a developing country extremely interested in leveraging its tourism EDE for country-wide economic development. This country is considered in this paper to demonstrate how a developing country might adapt economic indicators beyond those globally and historically accepted. A selection of models of indicators of economic development are explained in terms a tourism economic development ecosystem. The ecosystem is considered in terms of levels of value creation measurement - macro, meso and micro indicators - highlighting gaps where further indicators could be considered for a developing country context.

3.1. Conceptualising a Tourism Economic Development Ecosystem (EDE)

Ács, Szerb, Lafuente and Lloyd (2018, p. 3) note that, "an ecosystem is a purposeful collaborating network of dynamic interacting systems and subsystems that have an ever-changing set of dependencies within a given context". As the behaviour of an ecosystem over time becomes unwanted creating outputs of less value, tourism policy-makers need to decide what actions to take to improve that behaviour. Deliberately taking actions to influence the ecosystems behaviour, seek to improve the value of the system's output. To do this there is a need for reliable and valid information about the ecosystems behaviour through measurements with behavioural indicators. Altering the behaviour of an ecosystem has implications for interdependent social systems. In the case of tourism, the host country's tourism businesses and their communities. Tourism business entrepreneurs often have a close alliance with the community in which they operate, reinvesting financially and emotionally in that community. In South Africa many rural communities at tourism destinations points do not have ideal business infrastructure sometimes lacking business fundamentals to ensure local business growth. Alvedalena and Boschma (2017) highlight the complexity of ensuring all levels and interactions of an ecosystem are

acknowledged. Mapping gaps where there is little to guide in understanding how sub- ecosystems connect to each other and overlap has implications for how accurately measurement indicators of an EDE are truly interpreting the behaviour of the entire system, in terms of value created for economic growth and development. The human capital capacity within an EDE has to be understood so that they can act as boundary spanners between sub-systems to improve the overall performance of the whole EDE. Mapping of all variables influencing an EDE is required to understand it; recognising EDE resource relationships both tangible and intangible needs to show the strength of these relationships in terms of resilience and this sustainability (Auerswald, 2015).

In the context of Africa, and example of boundary spanners are the African Union (AU) Agenda 2063 and 2030 United Nations (UN) Agenda for Sustainable Development, which make special note of tourism's economic force in African countries driving "job creation, environmental preservation, and effective resources management" (AUDA-NEPAD, 2019). Resilience can be thought of as the capacity of an ecosystem to absorb disruptive influences to its economic performance, reorganising its sub-systems by leveraging the correct human skills and system resources to repair unwanted damage, is important in promoting EDE adaptability and ensuring future economic growth (Folke, Carpenter, Walker, Scheffer, Chapin & Rockstrom, 2010). Under the influence of multiple influences, ultimately the capacity of a country's communities and stakeholders at all ecosystem levels to adapt, demonstrates the ecosystem's resilience and ability to sustain their tourism enterprises (Orchiston, Prayag & Brown, 2016). Creating resilience in an ecosystem is closely related to planning long-term economic sustainability for that system but trying to understand how to create resilience due to the complexity of recognising all relevant influences in the tourism EDE, monitoring and measuring them effectively to gain insight changing their future behaviour, alleviating unwanted behaviour. McCool (2015) notes that sustainability in tourism businesses can be considered as a strategy that builds ecosystem resilience and this concept would need to be apparent in every sub-system of an EDE.

The development of any tourism business requires specific underpinning support (Reynolds, Fourie & Erasmus, 2019). Communities have QOL variables established that review economic indicators (income generated, effect of tourism on local hotel and consumable prices) and socio-environmental indicators such as the effect of tourists on community cleanliness, the disruption of quietness, the increase in crime and erosion of community identity (Andereck & Nyaupane, 2011; Uysal, Sirgy, Woo & Kim, 2016). Well documented challenges for tourism business development include inadequate road infrastructure, communication networks, electricity power-cuts, lack of access to financial and human capital, and undeveloped business management skills (Fjose, Grunfeld & Green, 2010; Muriithi, 2017). The next sections (macro, meso and micro) present a small selection of measurements by indicators of variables behaviour to demonstrate an EDE. These indicators should be used to map and visualise the behaviour of a high-level EDE by interpreting the behaviour and interactions of a multitude of sub-ecosystems helping in this way to strategise the future performance of these sub-systems.

3.2. Macro Environment Indicators

In order to examine a tourism EDE to map a conceptual model, three levels of ecosystem behaviour indictors was reviewed: the macro sub-section of this paper looks at the influence of global tourism performance indicators; the meso sub-section reviews a sub-system pertinent to the South African context of indicators that reflects South African tourism growth and development; the micro sub-section

reviews the role indicators that can help understand the behaviour of tourism businesses as sub-systems. Tourism businesses typically spring up in tourism destinations in response to low barriers to entering the industry by identifying innovative ideas for new tourism product and service offerings.

3.2.1. Travel and Tourism Competitive Index

Governments create tourism policies for strategic development to widen a country's revenue generation bases. To do this, governments need to gather information on past performance to enable future performance. The World Economic Forum (WEF) introduced the Travel and Tourism Competitive Index (TTCI) in 2007 (WEF, 2019), one of the most prominent international, global indicators. The final review of specific indicators of performance is prepared annually looking retrospectively at the year. The TCCI reviews 14 pillars (2019) (Table 1). The reports for 2015/16 and 2010/11 measured only 12 pillars. Under each pillar are aggregated further indicators considered representative of the pillar. In 2010/11 these indicators numbered just over 100, by 2019 these indicators were 140. The resulting annual rankings are proposed to help enable the sustainable development of travel and tourism per developing and developed country economy. The TTCI notes (TCCI Report, 2019, p. v):

"This report provides a valuable tool for policy-makers, companies and complementary sectors to understand and anticipate emerging trends and risks in global travel and tourism, adapt their policies and practices, and accelerates new models that ensure the longevity of this important sector".

The report proposes to be used yearly by governments of developing and developed countries to compare themselves with other competitor countries to then strategise their own country's development of competitiveness. The ranking '1' indicates the most favourable country likely to attract tourists.

Table 1. Pillars of the TCCI 2019

PILLAR	DESCRIPTOR	PILLAR	DESCRIPTOR
1	Business environment	8	Price Competitiveness in the travel and tourism industry
2	Safety and security safety	9	Environmental sustainability
3	Health and hygiene	10	Air transport infrastructure
4	Human resources and labour market	11	Ground and port infrastructure
5	Information and communication technologies (ICT) readiness	12	Tourist service infrastructure
6	Prioritisation of travel and tourism	13	Natural resources
7	International openness	14	Natural and cultural resources and business travel

Source: TCCI 2015/16 and 2010/11 - ranking pillars: 12th pillar: Innovation; 11th pillar: Business sophistication; 10th pillar: Market size; 9th pillar: Technological readiness; 8th pillar: Financial market development; 7th pillar: Labour market efficiency; 6th pillar: Goods market efficiency; 5th pillar: Higher education and training; 4th pillar: Health and primary education; 3rd pillar: Macroeconomic environment; 2nd pillar: Infrastructure; 1st pillar: Institutions.

Source: Adapted from TCCI, 2019

The proliferation of variables grouped still further under the 12 pillars by sub-groupings represent multiple tourism-related ED minor ecosystems. The complexity of the many ecosystems identified by

the report can make it hard to strategise policy scenarios where changing the behaviour of one sub-system has calculated or unforeseen effects on inter-related sub ecosystems.

Table 2. South African TCCI Rankings over 10 years

Year of Report	Overall Index Rank
2010/11: 139 economies: 12 pillars	54 (TCCI, 2010)
2015/16: 140 economies: 12 pillars	85 (TCCI, 2015)
2019: 140 economies: 14 pillars	61 (TCCI, 2019)

Source: Adopted from TCCI Reports 2010, 2015, 2019

The TCCI summary reports are widely available being placed in the public domain on the Internet. The ranking given to South Africa is shown in Table 2 but comparisons of the movement of the rankings could be hard to establish in terms of the impact of various indicators measuring the trends of specific behaviours of the EDE, because the definition and number of some variables and sub-systems have been changed over the ten-year period. Reflection on past performance is often used in business practice to strategies future planning but this would be complex based on the increasing number of indicators included annually. The condensed report contents are available to any and all stakeholders including media to review and interpret even though these are only summaries of complex variable interactions. The concern with this summary report is the manner in which it attempts in a sentence to summarise these complex ecosystems using the data to make forecasts. The 2019 report opens in its assessment of the sub-Saharan region within which South Africa falls, by stating:

"*Sub-Saharan Africa ranks at the bottom of the TTCI… in particular, the current lack of investment means that the region has the least-developed [transport] infrastructure in the world, clogging up the vital arteries of travel and tourism"* (TCCI, 2019, p. 54). *"It [South Africa] has one of the worst safety and security environments (132nd) in the world, and is plagued by high homicide rates (135th), a significant impact of crime on business (131st) and increasing fears of terrorism. Combined with poor health and hygiene conditions (113th), the security situation diminishes South Africa's attractiveness for visitors and investors alike"* (TCCI, 2019, p. 56). *"The country [South Africa] also boasts a decent business environment (57th)"* (TCCI, 2019, p. 56).

South Africa has in fact, well developed transport infra-structure but the 1st paragraph of the summary is open to generalisation from the sub-Saharan region's TCCI indicators. Making specific mention of various factors in the TCCI report may infer something very negative to potential tourists/investors. For instance, the 2019 report notes that South Africa has a "decent" business environment (TCCI, 2019, p. 56) yet in the same paragraph highlights aspects of safety and terrorism "diminishing attractiveness for visitors and investors alike". The note on terrorism is not underpinned by any indicator of the 2019 report. The report summary sends a very undesirable message globally to investors and tourists and likely affects future economic development and so the behaviour of the 2021 South African tourism EDE. South Africa is a developing economy where neighbours in the region affect the South African EDE in positive and negative ways (migration to South Africa to find jobs together versus cross border shopping tourism) affecting government prioritisation of where available tax revenues should be spent. The TCCI report in reporting its indicators as summaries that selectively pick indicators not contextualised by their ecosystems, inadvertently does not help with creating resilience in the South African EDE. Government policy-makers in South Africa need to decide from a more TCCI

comprehensive report, which variable indicators to influence to change their future behaviour. The summary of the annual reports however, demonstrate the lack of clarification of the complexity in an economic ecosystem.

Tourism businesses are likely to be less affected by disruptive crises due to inherent flexibility and adaptability that the industry requires to serve multiple different types of tourist. The very characteristics that allowed a tourism business to establish, comes from people who exhibit innovativeness becoming tourism entrepreneurs. These characteristics often lead to unusual entrepreneurial innovations to maintain business sustainability (Gamba, 2019). Tourism national policy should need to map the EDE to assess the degree with which tourism businesses add value identifying challenges that hold back business development and so the value created in the entire EDE (Miles, 2012; Ranieri & Ramos, 2013). Yet government policies often ignore the micro subsystems referring to focus on desired outcomes at the macro level of the EDE (tax revenue generated, jobs created). Every component of the ecosystem demands a tailored method of management (Weidenfeld & Leask, 2013). Tourism businesses well-being is not sufficiently considered as a sub-system in the TCCI measurement and modelling of tourism's ecosystems although the impact of this sub-system rolls into other tourism subsystems such as the community within which the business operates and this the country's wellbeing.

3.2.2. Meso Influences in the EDE

Tourism satellite accounts (TSAs) measure tourism's direct economic contributions to a national economy, a concept developed and monitored globally by the UNWTO. Table 3 highlights some trends drawn from TSAs for tourism in South Africa.

Table 3. TCCI Trends South Africa

TSA	**Tourism Direct Gross Value Added (TDGVA) South African Rand (SAR million)**	**Tourism Direct Gross Domestic Product (TDGDP) (SAR million)**	**Directly Employed (Persons)**	**Non-Resident Visitors to South Africa (Persons)**
Provisional 2017 and 2018	2018: R118 446 2017: R108 412	2018: R130 163 2017: R118 977	2018: 739 657	2018: 15 825 296 (4 532 279 same day visitors) 2017: 15 939 855
Provisional 2015 and 2016	2016: R114 850 2015: R99 348	2016: R125 136 2015: R108 683	2016: 686 596	2016: 15 121 328 2015: 13 951 901
Provisional 2010	2010: R168 494	2010: R80 249	2010: 567 378	2010: 11 574 540

Source: Adopted from TSA reports, TSA, 2010, 2015, 2019

South Africa is one of the few countries in Africa to have a TSA and to periodically publicly publish its SAT data. As regards table 3, the number of non-resident visitors has remained fairly static in the years 2018-2016. The vast majority of these non-resident visitors arrive from other countries in South Africa to shop. Informal 'business tourism' known in South Africa as cross-border shopping, is well recorded in academic literature as a common occurrence between South Africa and other countries in Africa

(Manjokoto & Ranga, 2017). In 2018, the TSA (2019) noted over 4 million people entered South Africa indicating on data capture forms that they were there to shop while the remainder of the 15 825 296 people indicated that they were tourists although they too may have been shoppers. The manner in which the intent of people arriving in SA is captured makes it hard to isolate real tourists committed to a tourism experience, from cross-border shoppers. South Africa has a good road infrastructure to neighbouring countries in the sub-Saharan region and many flights daily to other countries in Africa. Shoppers provide an important part of tourism's South African GDP contribution, an aspect that encourages resilience in the SA EDE although not noted as a unique country aspect in TCCI reports. Rogerson (2018) notes these shoppers tend to choose low cost options for overnight accommodation and meals. Sight-seeing in the traditional tourism sense is not part of their agenda. The true impact of shoppers on tourism businesses whether primary suppliers of low-cost accommodation and food, or secondary supplying goods to shoppers, is not considered sufficiently as a developing country tourism resource. This type of tourism, although non-traditional in terms of what developed countries recognise as a tourist, provides a massive boost to the SA economy.

3.2.3. Micro Influences in the Tourism EDE

Looking holistically at the EDE, TCCI advances ideas of how to change future behaviour to policy-makers, the TSA reports on the impact of changes made, while the micro level has the ability to implement these changes. The centrality of tourism businesses having the flexibility and innovative capacities to affect competitive advantages and future economic performance, cannot be overstated.

Okeke (2018) recommends the way to develop business is to draw on pro-poor concepts for developing sustainable business, including embracing local culture, improving local technology infrastructure and satisfying the tourist to create QOL for businesses and the communities in which they operate. South Africa can differentiate itself from other countries both developed and developing, by offerings specific experiences related for instance to measuring attributes such as improving the impact of its culture and service on tourists. Such measurement data is usually gathered in-country with indicators positioned within surveys contextualised for local South African conditions. The indicators provide data that is very country specific with regards to its application to improve economic performance.

In this section the concepts of customer satisfaction, Ubuntu as a culture, and ability to share information as technological infrastructure to support innovation, are discussed as manners in which a country can internally support tourism economic performance by applying and measuring indicators related to developing unique, intangible country offerings.

Attaining customer satisfaction is an imperative consideration in creating opportunity for tourism businesses to grow through word-of-mouth advertising and return visits. This growth within a tourism EDE, encourages the further economic development in a country (de Salles Canfield & Basso, 2017). Several countries have developed measurement models to interpret customer satisfaction from their tourism product and service offerings. The Swedish Customer Satisfaction Barometer (Fornell, 1992), the American Customer Satisfaction Index (ACSI) (Fornell, Johnson, Anderson, Cha & Bryant, 1996), and the European Consumer Satisfaction Index (ECSI) (Eklöf & Westlund, 2000) are examples of developed countries that regularly use national customer satisfaction indexes at the business level of the

EDE, to interpret the behaviour and value creation of the engines of the EDE i. e. tourism businesses. On purchasing a tourism product or service, customers have a certain expectation of what they will receive. In tourism businesses this often relates to a product or service that is bought only being received as it is consumed by the tourist leading to a need to measure the gap between what was expected and what was received, if gap is to be minimised ensuring tourist's satisfaction. To understand customer satisfaction related to service quality, the South African National Department of Tourism NDT embarked on a research study between 2012 and 2015 to define a model that would give the government an indication of the growth and development of various accommodation sub-sectors of the tourism industry. The resulting instrument joined the global customer satisfaction indexes, known as South African Accommodation Satisfaction Index (SAASI) (Nunkoo, Teeroovengadum, Thomas & Leonard, 2017). At the micro level of the EDE the opportunity exists to use the SAASI to gain information on what is driving positive customer satisfaction within the overall South African tourism EDE. The application of the SAASI model to gather data is still limited but if applied in-country, broadly and regularly, would provide very important data on where South Africa should focus its tourism accommodation development efforts.

Ubuntu is a cultural behaviour practised in South Africa. Khoza (2005, p. 269) notes that Ubuntu is, "an African value system that is characterised by caring, sharing, compassion, communocracy and related predispositions". The values (survival, respect and dignity, compassion, and solidarity) upheld in practicing Ubuntu as a culture, are well tailored to providing a warm welcome to tourists as South African tourism managers with their tourism employees, naturally make newcomers welcome (Molose, Goldman & Thomas, 2018). A survey of indicators to measure the impact of a culture like Ubuntu has been developed and field measurement of its impact for tourism will provide inimitable ways of making South African tourism more unique (Molose, Thomas & Goldman, 2019). In turn, this can lead to increased economic performance as tourism employees in South Africa demonstrate Ubuntu in welcoming tourists. This is a marketable, intangible asset for South Africa.

Co-operation between tourism stakeholders to develop unique innovation for a country can be undertaken only if there are communication ecosystems set up that share new knowledge widely (Stam, 2015). Stam (2015, p. 6) notes that businesses with an entrepreneurial attitude are,

"Central players (leaders) in the creation of the system and in keeping the system healthy. the emphasis on the role of local conditions and bottom-up processes. Networks of entrepreneurs provide an information flow, enabling an effective distribution of labour and capital".

Systems for innovation between businesses require ecosystem of learning and innovation which are linked by communication flow (Asheim, Smith & Oughton, 2011). These linkages prove to be exceptionally useful for innovation in response to disruptive influences - literally brainstorming ways to manage the disruption. Auerswald (2015) notes that innovative businesses respond by quickly changing their processes and combinations of resources, an attribute that lends to resilience for the entire EDE, and opportunities for long-term viability for all EDE members. Innovating is a co-constructed attribute of the system (Stam & van de Ven, 2018).

Low employment opportunities in developing countries often encourage small tourism business development and this has a major socio-economic role to play in South Africa (Nkwinika and

Munzhedzi, 2016). Small business in developing countries is, "the main driver of innovation, the main source of competitive advantage" (Adeniran & Johnston, 2011, p. 4088). Internet-based services provide opportunities for businesses to quickly gather useful information (Payne, Peltier & Barger, 2017). However, digital services required for business can be limited in developing countries such as SA, to urban areas, and not always accessible in rural areas (Ndiaye, Razak, Nagayev & Ng, 2018). Access to efficient information retrieval and knowledge sharing is directly related to business innovation for resilience to disruptive changes to maintain organisational performance (Soto-Acosta, Popa & Palacios-Marqués, 2016). It is important for a country such as SA to regularly interrogate the extent to which its infrastructure in terms of technology, supports resilience for the EDE. In terms of improving the communication technology infrastructure, the SA government announced measures to improve opportunities for e-commerce due to the Covid-19 social distancing requirements. The ramifications for this macro ecosystem change for tourism has yet to be seen but may well encourage use of creative media and visual arts to market a tourism product/ service which has not been available for small businesses to-date (DTIC, 2020).

4. Discussion and Economic Development Implications

The mapping of tourism EDEs in economic planning cannot be underestimated and should be encouraged. The ecology of the business sub-ecosystems and the interpretation meaningfully and innovatively of what their associated economic indicators mean in terms of their position within a multitude of other subsystems becomes the key to devising unique strategies for future desired economic development (Acs, Autio & Szerb, 2014). The EDE value creation (Figure 1) is a collective effort resting solely on what indicators are used to identify and then promote a country's competitive advantages. The economic development ecosystem is just one of many maps that can be conceptualised depending where the focus of policy-makers lies with regards to the interpretation of economic indicators.

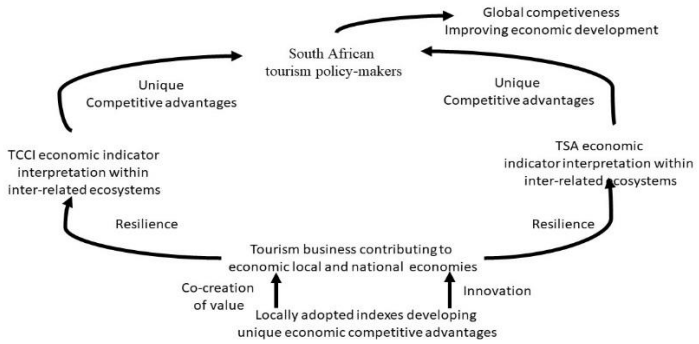

Figure 1. Conceptual Framework for a SA EDE
Source: Author's own compilation, 2020

Traditionally, economic indicators tend to be used without enough consideration of what knock-on effects changing the behaviour of an indicator variable has on its immediate ecosystem, and on the larger ecosystem in which it resides. The opportunity to tweak the behaviour of variable here or there without mapping the possible consequences is attractive and looks like a quick fix. But, variable

behaviour changes are best when tracked over time to ascertain what is actually their impact (Autio, Nambisan & Thomas, 2017). The essence of mapping relevant ecosystems and choosing appropriate indicators that measure changes in behaviour, is termed mapping "systems of interest… sets of activity which could be described as being organised around a single/particular purpose" (Reynolds & Holwell, 2010, p. 8). Adopting Reynolds and Howell (2010, p. 17) recommendations for changing an ecosystem's future behaviour can be applied for this tourism EDE (Figure 1) as follows: "Purposeful orientation 1, making sense of, or simplifying (in understanding), relationships between different entities associated with a complex situation". Figure 1 is a high-level mapping of a very complex system of economic variable indicators. Figure 1 seeks to show how they possible interact but it will not be the only map; "Purposeful orientation 2: Surfacing and engaging (through practice) contrasting perspectives associated with complex situations". This orientation requires acknowledgement of the knowledge and experience with ecosystems, of the mapper. Resulting maps will depend on the context of the mapper's use for the ecosystem (what variable behaviour is to be modified, what indicators can measure and reflect desired change), the purpose for which the map is employed (what value needs to be improved as indicated by the TCCI and TSA variable indicators, and how can this been applied at a micro level (indices such as those for Ubuntu, accommodation, and communication technology, that seek to measure improvement for tourism business value creation). The mapper's, skill in interpreting what opportunities the economic indicators are reflecting, will relate to what extent policy-makers and businesses think of innovative ways to improve value creation and the ecosystems sustainability and resilience to disruptive change (Autio & Rannikko, 2016); "Purposeful orientation 3: Exploring and reconciling (with responsibility) power" (Reynolds & Howell, 2010, p. 17) to make the changes within the ecosystems. In the South African map, policy makers include DTIC, Statistics South Africa, and the NDT and these stakeholders would need the skills to interpret the ecosystems' economic indicators.

5. Conclusion

Regional identities associated with a tourism attraction are reliant on businesses success in satisfying tourist needs and contributing to a healthy tourism sector. Many countries promote tourism development to increase taxes and job creation. Ideas to improve a tourism ecosystem's behaviour are often influenced by recommendations associated with economic development indicators that have been used in growing tourism ecosystems of other countries. The danger here is the disregard of, or lack of reliable measurement of, the extent to which that successful ecosystem's development has relied on its own unique, in-country specific economic and cultural attributes (Harrison & Leitch, 2010). This means that it is critical that each country's policy-makers interpret global indicators against their own specific context. The interdependencies between inimitable elements of a country are easily ignored in interpreting indicators of an economic development system. Stakeholder wellbeing at every ecosystem level leads to ecosystem resilience to withstand shocks and change. This multi-system value generation is important to monitor in terms of manipulating future benefits for a country's economy (Kim, Uysal & Sirgy, 2013). Future research on EDEs needs to explore ways to map the ecosystems enabling unique aspects of global and national indicators to be interpreted holistically, not in isolation of other interrelated sub-systems. Systemic interrelationships need to be well understood before embarking on change wrought by policy-making. While a community's quality of life in terms of their satisfaction

with tourism activities taking place in proximity to them has been widely studied (Yu, Cole & Chancellor, 2016), this relationship between community and business as an ecosystem that leads to opportunity for innovative economic performance of a tourism business (Woo, Kim & Uysal, 2015), has not been deeply considered and would benefit from future research. Yet, these are interlinked eco-systems (Mancini, George & Jorgensen, 2012). Future research into how to measure the health of a business from the perspective of the business stakeholders and utilise these measurements in interpreting and influencing the future behaviour of a country's tourism EDE, is required. Insufficient understanding of interrelated socio-economic subsystems can lead to reduced resilience and sustainability of the very businesses that drive the entire ecosystem (McCool, 2015). Disruptive change often leads to improved macro level resilience as the micro ecosystems respond. Indicators are very important to identify opportunities for both change and managing disruption, and mutually they can lead to innovation.

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