

The Potential Utility of Tourism Demand as an Indicator of Sustainable Development in Tourism

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Abstract

Indicators of the sustainable development of tourism are tools to represent, monitor and manage issues of tourism development. Changes in indicators signal changes in intensity of issues and provide tangible information for the decision-making of destination management as well as assessments of improvements in the sustainable development of tourism. This study explores the potential utility of a single indicator: tourism demand (measured in tourist numbers), which represents the quantitative aspect of the 'demand side' of tourism development in a 'supply and demand' relationship between destinations and tourists. It does so by firstly, identifying the present ways that tourism demand can indicate sustainable development and secondly, identifying the issues that tourism demand can indicate. This study further considers the potential utility of monitoring tourism demand as an indicator of sustainable development in tourism by comparing tourism demand volatility research with the use of tourism demand as an indicator of sustainable development in tourism. Findings show that tourism demand can be monitored as an indicator of sustainable development in tourism in three ways: as a number of total tourists, to compare changes in tourism volumes over different periods of time, and tourist volumes in relation to attributes of destinations. The study also finds that five sustainability issues can be indicated by tourism demand: 1) transportation of tourists to and from as well as around destinations, 2) crises of shocks to the industry, 3) economic benefits of tourist's spending, 4) controlling tourism activities, and 5) destination planning. Tourism demand can indicate issues in three ways: as a measure of the severity of issues, as a causal factor of the impacts that tourism demand can cause, but that it itself is not, and as relatable information to issues, but that does not represent issues. In comparing existing research on tourism demand

volatility with the present use of tourism demand as an indicator, it is found that additional measurement techniques could illuminate different characteristics and impacts of demand in tourism development. This is discussed further in considering the potential use of monitoring determinants of the sustainable development of tourism. In conclusion, it is found that tourism demand is a valuable indicator to monitor, but that its total potential utility has not been realized in sustainable tourism research.

The Potential Utility of Tourism Demand as an Indicator of Sustainable Development in Tourism

Introduction

Indicators of sustainable development in tourism (ISDT) are vital for guiding the sustainable development of tourism and for monitoring destination transitions towards sustainability (Miller & Twining-Ward, 2005; World Tourism Organization (WTO; also UNWTO), 2004, p.7). ISDT are measures of the existence and severity of issues in tourism development, signals of risks and future issues, and are a means to identify progress in the management of sustainable development (WTO, 2004, p.8). They are used to measure development issues unique to tourism destinations and ideally, act as early warning signs of mounting issues and to inform destination management.

ISDT are unique to tourism. Indicators of sustainable development (unspecific to tourism) apply to more general objectives of sustainable development: development that meets the needs of the present and future generations (Agenda 21, 1992; World Commission on Economics and Development (WCED), 1987). Sustainable development is a globally focused concept, however indicators of sustainable development are intended to make sustainable development tangible and are often associated with and applied to a specified geographic area or place (Bossel, 1999). ISDT are the application of indicators of sustainable development to the unique issues and needs of tourism destinations, which for the purposes of this study reflect “tourism that takes full account of its current and future economic, social and environmental impacts, addressing the needs of visitors, the industry, the environment and host communities” as it applies to all types of tourism, from mass to niche tourism segments and from national to

local scales (UNWTO). ISDT allow destination management to transition focus from industry-specific issues to broader social, environmental and economic outcomes.

Tourism at the very least involves the movement of people from one place to another, and back (Butler, 2006). Tourism is generally considered a leisure activity, although it can be for personal and professional purposes (UNWTO). In the sustainable development of tourism, destinations are places with the unique feature of a transient population of tourists that travel to and from destinations, interacting with social, environmental, and economic aspects of a destination in their trip (Definition based on UNWTO). ISDT recognize this phenomenon and are designed specifically to monitor tourists' interactions with destinations, as well as resulting impacts for sustainable development at destinations (WTO, 2004).

Popular conceptions of tourism development (specifically, resort development) confirm to a simplified 'arrivals and development' tourism area life-cycle model, whereby tourist arrivals and destinations are in influence of one another through organic development and decline as a destination passes through six characteristically unique stages: exploration, involvement, development, consolidation, stagnation, decline and rejuvenation (Butler, 1980; Butler, 2006). Tourism developments are a relationship between destinations and tourists where the prospect of increases in tourists can spawn investments in destination development and in turn, attract more tourists. In contrast, decreases in tourist arrivals and industry performance can deter investments and vice versa (Lundberg, Kishnamoorthy & Stavenga, 1995).

Tourism demand is a measure of quantities of tourism arrivals to a destination (Athiyaman, 1997) and is a central component of tourism development. In competitive markets, destinations compete to attract tourists by investing in destination infrastructure and marketing

to potential tourists (Hannam, 2004). Success to this degree is measured in arrivals at a destination, which is a common indicator of tourism development.

How tourism demand can be monitored to indicate the sustainable development of tourism, however, is less clear. In contrast to the widely studied area of tourism research that looks at impacts and determinants of tourism demand, by in large, out of focus is the way that demand can be monitored to indicate sustainable development. This is reflected with the lack of appearance of the impacts of tourism demand (positive and negative) in sustainable tourism literature as well as the elusive use of tourism demand as an ISDT. While there has not been the same research that examines correlations and causalities between changes in tourism demand and ISDT, however, the notion that numerous spheres of sustainable development (environmental, economic, political and social) are interconnected suggests that when one sphere changes, such as the number of tourists, others may as well (Twining-Ward & Butler, 2002). In this sense, although tourism demand is so far predominantly related to economic issues in tourism, it may be able to indicate other issues as well.

There are clues in common phenomena and concepts in tourism that suggest there could be value to monitoring tourism demand as an indicator of sustainable development. A destination's carrying capacity, for example, can be considered the maximum quantity of visitors that a destination can accommodate without deteriorating the destinations' physical environment or visitors' satisfaction (Hovinen, 1982). O'Reilly (1986) suggests that the impacts of exceeding a carrying capacity can be felt with host populations as well as with tourists, as they become less attracted to destinations. In these cases, although a destination's carrying capacity can be dictated in different ways, the underlying premise, as Honinen (1982) and O'Reilly (1986) describe it, is that changes in quantities of tourists are *causes* as well as

results of whether a destination exceeds its carrying capacity, suggesting that tourism demand can indicate more than industry performance.

Other examples of how tourism demand can be linked with sustainable development include, for instance, mass tourism, which is tourism in large quantities at one destination (Claver-Cortés, Monline-Azorín & Pereira-Moliner, 2007). In addition, changes in tourism demand over multi-year time frames, for example, can drive investments, alter social and ecological environments, and ultimately, change destinations (Claude & Zaccour, 2009; Ahn & Lee, 2002). Over shorter periods of time, irregular and seasonal decreases in tourism arrivals are associated with unemployment (Hitchcock & Putra, 2005; Ashworth & Thomas, 1999). Issues such as these that have dramatic impacts for destinations are considered in the sustainable development of tourism and are the reason for the development of specific indicators that represent issues behind ISDT (WTO, 2004).

The impacts that tourism demand can inflict and the responsiveness of tourism demand are especially evident in the study of tourism demand volatility (TDV). TDV research measures variations in arrivals at destinations of tourism source markets (Chan, Lim & McAleer, 2005). As Shareef and McAleer (2008) note, variations in tourism demand can cause serious ramifications for destinations. Such ramifications are issues considered in sustainable development of tourism and include: economic stability and benefit distribution, employment, government support and destination planning control (Harris, Doan & Wilson, 2012; Hitcock & Putra, 2005; Shareef & McAleer, 2005). Researchers agree that destination characteristics such as specialization in the tourism industry (Such as with small island tourism economies, where national economies are largely centered around tourism) can make destinations particularly vulnerable to variations in tourism demand. Furthermore, different characteristics between

source markets and destinations (for example: international tourism and source markets that are geographically further from destinations are more likely to have greater TDV) can impact characteristics of TDV (Daniel & Rodrigues, 2010). The ability of TDV research to model characteristics of variations in tourism demand in association with impacts and issues for the sustainable development of destinations makes evident the impact that demand, and more specifically, changes in demand, can have on destination development, as well as the potential value of monitoring it as an ISDT.

Being an integrative component of tourism development, demand has been identified as an ISDT in academic literature, albeit equivocally. In most ISDT frameworks tourism demand is not considered (without an explanation of why certain indicators are considered and others are not) (Park & Yoon, 2011; Miller & Twining-ward, 2005). Furthermore, when it is considered, it is an indicator used to monitor numerous issues (WTO, 2004). For example, it is used as: an indicator of industry performance for destination planning (p.205), an indicating proximal measurement for tourism revenues to monitor community and destination economic benefits (p.129), to measure the impacts of crises on tourism demand (p.102 and 106), and to measure the distribution of tourism demand throughout the year as an indicator of stress on destinations (WTO, 2004, p.112). Tourism demand can therefore be used, if it is used, as an indicator of not only numbers of tourists, but also as a causal factors and impacts of positive and negative issues in tourism.

Even in these few examples tourism demand is used as an ISDT in numerous contexts. When, for example, it is used as a measure of industry performance to inform destination planning or as a measure of impacts of crises, tourism demand levels are monitored as a result of issues. When it is used as a proximal or partial measure of economic benefits and economic

seasonality, in contrast, arrivals are used as a causal determinant of issues. While in both cases tourism demand provides useful feedback to destinations, it does so differently as tourism demand indicates different issues.

The numerous and varying uses of tourism demand as an ISDT suggest that it may be a valuable ISDT. However, despite tourism demand's ties to numerous aspects of tourism development and components of sustainable development, its use in ISDT is elusive. Furthermore, ISDT research has called for empirical research using indicators (Butler, 1999), and while no such research has been produced (to this author's knowledge), considerable research studying the determinants and impacts of tourism demand has received ongoing attention and progress. The present research therefore has the opportunity to bring ISDT research up to speed with other indicator-based research that focuses on tourism demand. The purpose of this research is to provide clarity to elusive acknowledgement of tourism demand in relation to sustainable tourism and examine the potential value of incorporating tourism demand as an ISDT.

Literature Review

Matheson and Wall (1982) have long since been aware of the social, physical and economic impacts of tourism and called for the benchmarking and monitoring of such impacts to effectively manage them. ISDT provide a means to mobilize and monitor such impacts as well as progress towards sustainable development in tourism (Miller & Twining-Ward, 2005). ISDT are a product of academic research as well as national and international efforts to manage sustainable development and the sustainable development of tourism.

Indicators of Sustainable Development

Sustainable development was most popularly introduced in *Our Common Future*, an effort to alert the world of alarming trends in the impacts of human development (WCED,1987). WCED (1987) recognizes that human development has progressed at a rate that could cause increasing harm to future generations. The concept of sustainable development is proposed in response, which is development that meets the needs of the present without compromising the ability of future generations to meet their own needs (*ibid*). The purpose of the concept of sustainable development is to put a name to the collective action that the world requires to manage development and to compel people towards action (Brundtland, 1987).

Sustainable development has since received acceptance from many countries around the world and work in sustainable development has continued to advance (United Nations, 2012). Five years after the popularization of the concept, Agenda 21 (1992, chapter 40), an outcome document of the 1992 Earth Summit, called on nations, regions and organizations to identify and develop monitoring programs for indicators of sustainable development to assist in decision-making. The United Nations continually updates indicator frameworks of sustainable development and continues to promote indicators as an effective tool for sustainable development (United Nations, 2007).

Academic literature similarly addresses the development and use of indicators. Hammond et al. (1995), Pearce and Atkinson (1993) and Atkinson et al. (1997) are few of many works that apply indicators of sustainable development to traditional economic and environmental management methods. In each case, the potential of the indicators are recognized as practical and useful measures of sustainable development. However, forming

consensus on which indicators, and in what geographic context they best apply has created conflict in the conceptual development of, and the use of indicators (Hammond et al., 1995).

The conceptual development of indicators of sustainable development is conflicted with differences among economic, social and environmental spheres of sustainable development. Gilbert (1996) suggests that there are two main purposes of ecologically-focused indicators of sustainable development: first, indicators should monitor pressures being placed on sustainability, and secondly, that they should monitor the effects of such pressures. Gilbert (1996) further suggests that both aspects must be benchmarked and monitored. However, van den Bergh and Verbruggen (1999) note that this is a very difficult task. While the Ecological Footprint (Wackernagel & Rees, 1999) indicator of sustainable development concept provides a methodology for this type of monitoring, it is hardly comprehensive or realistic because (un)sustainable development is not restricted to one sphere of sustainable development, nor is it always caused or felt in the places that it is monitored (van den Bergh & Verbruggen, 1999).

While these discussions focus on human-environment development, Rennings and Wiggering (1997) state that any single aspect of sustainability does not act alone and that the 'effects of pressures' (Gilbert's (1996) second criteria for indicators) are not contained to a single aspect. As such, indicators of sustainable development should be designed to be complimentary (that is, not exclusively focused on a single aspect of sustainability) to truly monitor sustainable development. A similar argument made by Friend (1996) is that sustainability is not about the success of any single aspect of sustainability, but is about maintaining the whole (environmental, social and economic) of sustainable development and that indicators should be designed to address this.

Not only do monitoring programs often not address all issues of sustainable development, but they have additional difficulties of suiting particular contexts of place. Wilson, Tyedmers and Pelot (2007) address that context varies with place and while there are many indicator frameworks (such as: Ecological Footprint, Surplus Bio capacity, Environmental Sustainability Index, Wellbeing Index, Human Development Index, Gross Domestic Product), no single indicator metric would be interpreted the same in different places, nor would it be a sufficient measure of holistic sustainable development. They too conclude that there is no single best indicator concept to measure sustainable development and that indicators vary according to the needs, priorities and values of each context (Wilson et al., 2007).

Despite the tendency of indicators program's to monitor a single aspect of sustainable development, sustainable development is integrative (Wilson et al., 2007). Therefore, it seems, indicator programs should monitor multiple aspects of sustainable development. Furthermore, sustainable development depends on characteristics of place (Hammond et al., 1995). Indicators of sustainable development should therefore be designed to specifically suit the needs of each place they are implemented, while monitoring important aspects of sustainable development.

Indicators of Sustainable Development in Tourism

The place-based context specificity that is discussed in indicators of sustainable development literature is particularly relevant to the unique characteristics of tourism destinations. With the complex and integrative interactions amongst destination stakeholders and tourists, Butler (1999) states that the concept of sustainable development is especially applicable to the impacts that tourism can generate and proposes that sustainable development,

like no other concept, has the ability to change tourism. This change, Butler (1999) suggests, can be achieved most effectively with the use of measurable indicators.

ISDT literature is an area of research within the larger field of tourism that seeks to provide insight and solutions in how tourism destinations can monitor and therefore optimize sustainable development (Miller & Twining-Ward, 2005). Indicator-focused management based on ISDT, WTO (2004) notes, is especially relevant in the expansion of traditional performance measurement methods (presumably relatively industry-focused measurement methods) as they incorporate 'broader social outcomes' that can improve the sustainability of individual contexts of destinations.

ISDT literature has largely focused on the conceptual development, identification and contextual application of indicator frameworks at destinations. Shaped by few authors, consensus has formed that monitoring indicators is effective for sustainable development in tourism and destination management and that geographic context, such as different types of destinations, is a significant determinant of indicator identification.

Development of Indicators of Sustainable Development for Tourism

The World Tourism Organization ((2004, p.19) proposes a method for developing ISDT with an emphasis on 'results-based management.' First, ISDT evaluators identify broad objectives, often through a consultative process, then seek appropriate measures or indicators to monitor achievement. Once clear indicators are defined, evaluators can strategically position and target data and data collection techniques to most effectively analyze indicators. Twining-Ward and Butler (2002) as well as Tanguay and Theirrien (2011) conclude studies on the development of ISDT stating that indicator programs can require continual refitting to remain most suitable and effective.

The WTO (2004, p.12) presents numerous means for measuring and expressing ISDT; they can be qualitative and quantitative as well as positive and subjective. Quantitative indicators can be, for example, raw data and ratios (such as the volume of waste produced and percentage treated). Qualitative indicators can be, for example, opinions of improvements towards sustainable development and based on opinions (such as local satisfaction surveys). Miller (2001), performing a study on the development of ISDT, notes that quantitative indicators are often preferred to qualitative indicators and may be superior in implementation, interpretation and effectiveness, particularly with physical aspects of sustainable development, while qualitative indicators are less tangible and potentially less effective for monitoring the sustainable development of tourism. This is contended by Ceron and Dubois (2003), as well as Park and Yoon (2011), who agree to that, while conceptually valid, qualitative indicators are comparatively difficult to benchmark and therefore, to monitor. Nevertheless, ISDT development frameworks continue to include qualitative indicators with some indicators being monitored in subjective formats such as public opinion, suggesting that there is also a place for qualitative indicators in ISDT programs (Park & Yoon, 2011; WTO, 2004).

ISDT research has often used Delphi surveys to build understandings and consensus among experts in the field. At this point in ISDT research, the expertise of academics have had significant impact in guiding observations and conclusions. The conceptual development of ISDT, in addition to ISDT development at destinations, is the initial step identified in the WTO indicator guidebook for developing ISDT programs (2004, p.19).

Destination Types and Indicators of Sustainable development for Tourism

Agreement has formed through academic studies that to suit the needs (with respect to sustainable development) of individual contexts, ISDT frameworks should be individually

developed to address specific needs of individual destinations. The development of ISDT frameworks has therefore often focused on particular types of tourism destinations, such as rural or island destinations, to suit the needs of different destination types.

In a study of rural tourism based in Korea, Park and Yoon (2011) establish 33 indicators: 12 indicators examine the management system and outcome dimensions with indicators such as collaboration in community business and income, 9 indicators focus on technical dimensions such as accessibility and convenience, 6 indicators prioritize environmental dimensions with indicators such as environment and subsidiary facilities, 5 additions indicators monitor social dimensions with indicators such as community management and satisfaction. In addition to identifying ISDT, Park and Yoon (2011) specifically emphasize the importance of the interrelatedness of top-down and bottom-up development perspectives and the potential influence of past tourism behaviour to influence the success of ISDT programs.

Focusing on community tourism, Choi and Sirakaya (2006) developed a list of 125 indicators. In their conclusion, Choi and Sirakaya (2006) emphasize the importance of cooperation between the public and private sectors in creating a common vision on issues such as planning, policy, and investment decisions, so that ISDT implementation does not conflict with stakeholders' interests.

The development of ISDT for small islands has been the subject of interest for researchers and destination development stakeholders. Twining-Ward and Butler (2002) address the implementation and use of ISDT in Samoa, and note that with high interconnectivity amongst political, economic, social and environmental spheres in small island destinations, clear objectives and stakeholder communication are paramount. They also note the

importance of maintaining flexibility in the ISDT framework to ensure that indicator data remains useful in the case of changing needs of destination management. Similar 'lessons learned' are concluded in an overview of the Samoa Sustainable Tourism Indicator Project (Miller & Twining-Ward, 2005). Miller and Twining-Ward (2005) note that for indicator programs to be effective over time they must be embedded in the planning process, and dealt with using effective communication, participation, and leadership.

Other studies of the sustainable development of tourism and use of ISDT examine the context of the geographic isolation and economic dependency of small islands. Douglas (2006) notes that small island states have additional issues in sustainable development due to geographic isolation, unique ecosystems, high vulnerability to external change, and concentrated populations that are subject to increasing resource demands. Reddy (2008) also addresses the issue of isolation of small islands in developing an ISDT framework. Being isolated from other places, small islands tend to function amongst themselves with greater interconnectivity, and therefore have a particular relationship different than other destinations for dealing with issues of sustainable development.

In academic studies that develop frameworks of ISDT, the indicator of tourism demand appears only once. Reddy's (2008) economically focused indicator framework identifies 'demand and supply of local services' as an indicator (p.571) (although 'seasonality' is identified by Choi and Sirakaya, 2006). WTO (2004) also identifies tourism demand as an indicator in multiple contexts to monitor stresses of tourism demand over certain time periods or features of the destination. The Delphi method used to create these ISDT frameworks does not provide reasons for why in most studies, tourism demand is not considered. Furthermore, with conclusions that often focus on connectedness, cooperation and dependencies between

local stakeholders, it is possible that attributes of destinations that are not permanent, specifically tourists, are underrepresented and have unrealized value.

In summary, literature on development of ISDT confirms to, and is therefore positioned in two principles: firstly, that ISDT frameworks should apply the concept of sustainable development to the context-specific needs of destinations and secondly, that in doing so, traditional indicators programs are expanded to incorporate more than industry phenomenon. The first principle, that ISDT should address the specific needs of tourism, is important do to the unique attributes and interests of tourism destinations. This idea is evident throughout ISDT development studies, where destinations not only have interests in the broad issues of sustainability, but are suggested to address how these issues impact specific destinations and the ability of different destination types to manage them. The second principle, that traditional indicator programs in tourism should be expanded from focusing on industry to sustainability, however, is less addressed in literature. The ISDT reviewed here show little, if any resemblance of industry indicators. This is most evidently seen in the omission of tourism demand from ISDT frameworks. It therefore seems that despite that ISDT studies stress the importance of relating the broad issues of sustainable development to the specific needs of tourism, valuable aspects of tourism, namely, tourism demand, are left unaddressed.

Tourism Demand Volatility

In contrast to the use of tourism demand as an ISDT, it is the sole unit of analysis in TDV research, which like ISDT research, monitors factors of tourism development to inform decision-making. TDV studies can not only quantify changes at destinations that cause fluctuations in tourism demand, but can also indicate how tourism demand fluctuations impact destinations (Coshall, 2009). As Shareef and McAleer (2008) state, an accurate assessment of

variations in tourism arrivals is essential for policy and marketing purposes. Impacts of TDV can be acute such as temporary unemployment with decreases in tourism demand (Hitchcock & Putra, 2005), or impacts can be longstanding; Harris and Wilson (2012) note that reoccurring TDV may cause entrepreneurs to sell locally owned tourism establishments to national and international interests that are better able to withstand volatile market conditions. Both local ownership and unemployment are ISDT and illustrate the relationship between TDV and ISDT research.

The link between TDV and ISDT becomes particularly evident again in research conducted on small island tourism destinations, which have been a great focus in both TDV and ISDT research. Small island tourism destinations have high interconnectivity among political, economic, social and environmental spheres, which Shareef and McAleer (2005) note, are particularly susceptible to exogenous influence and likely to experience TDV. Small island tourism destinations tend to be economically specialized in one industry such as tourism. Seychelles, for example, imports 90% of consumptive goods and depends on tourism revenue for 70% of foreign currency earnings, exemplifying the leverage on tourism demand that island destinations depend on (Shareef & McAleer, 2005). Island destinations (especially island destinations that are nations, such as Samoa and the Maldives) are most likely to experience the greatest TDV (Shareef & McAleer, 2005). High local interconnectivity and external dependencies exemplify the potential of small island tourism destinations to utilize ISDT as well as TDV in decision-making.

TDV is based on the underlying premise that the behaviour of tourists, at least quantitatively, is susceptible to impacts of shocks in the tourism industry, which can either cause tourism demand to increase or decrease (Coshall, 2009). Shocks that are able to change

potential tourists' decision to travel can be based in perceptions of risk and/or value. Chan, Lim, McAleer (2005) suggest the main factors are travel confidence, the global economy and international currency exchange rates. In addition to TDV research, numerous other research techniques have been applied to tourism to study how travellers change their mind in travel decisions, including: marketing (Chancellor, 2012), econometrics (Baltas, 2006) and risk analysis (Law, 2006). Economically focused travel behaviour studies are based in the idea that quantitatively, tourists like typical consumers, appreciate value and that when for example, exchange rates increase tourists' purchasing power at a destinations, or when tourists have more disposable income, they are more likely to travel (Webber, 2001; Kim, Park, Lee & Jang, 2012). Confidence and risk in tourism apply to a broad range of factors in decision-making. The chances of experiencing undesirable weather or political turmoil at a destination, for example, are factors that deter travel (Jacobsen, Kr & Martin, 2011; Sönmez, 1998). Combined, this research shows that numerous factors can change travel behaviour and that quantitatively, it does.

Tourism Demand Determinants

The decision to travel and the determinants that influence travel choice are topics that interest academics and industry alike. In examining tourism demand determinants, Eugenio-Martin (2003) models the tourism decision-making process as a five stage process: first, a potential tourist decides whether he or she is interested in travelling; second, determines his or her budget; third, the traveller, based on his/her budget, decides the frequency and length of the trip, which is depicted as a work versus travel decision; fourth, the traveller picks a destination; and finally, based on the first four choices the traveler decides on a mode of transportation. This is one of many similar models of tourism purchase consumption systems that depict how

tourists are likely to make travel decisions, which can be used by destination management to inform marketing strategies (Woodside & King, 2001)

The tourism demand determinant model of Eugenio-Martin (2003) relies four out of five times on economic decision-making. Only in stage four of the decision-making process does the decision turn to the traveller's non-economic preferences. As Cho (2010) discusses, published understandings of tourism demand are heavily leaved on quantitative research and economic principles with such sub-fields of research as tourism demand forecasting.

In response Cho (2010) makes an attempt to model non-economic tourism demand determinants. In a review of literature Cho (2010) classifies five different determinants of tourism: (i) attitudes towards tourism, (ii) richness of tourism products and services, (iii) tourism support, (iv) environmental factors, and (v) economic factors. Together these five determinants provide a fresh take on the decision-making process towards tourism. In analysis, Cho (2010) finds that tourists from different origins have different values within these five determinates, which are not dependent on economic factors. The findings show that Asian tourists have a relative preference for cultural and natural heritage, Europeans have a relative preference for cultural heritage and that tourists from the Americans have a relative preference for nearby destinations with inviting host societies. What becomes clear then is that what causes people to travel are more than economic factors and that for different types of people, factors influence the decision to travel differently. In considering Eugenio-Martin (2003) and Cho (2010) it also becomes clear that in the discourse of determinants and quantities of tourism demand, economic principles reign superior in literary influence.

Close examination has also been given to the point of purchase in tourism. Page (2003, p.63) considers determinants in the act of purchasing a holiday. According to Page (2003), five

factors exert powerful influence of the purchasing decision: personality of the purchaser, the point of purchase, the role of the salesperson, whether the individual is a frequent or infrequent purchaser of holiday products, and prior experience. In this model it is not only financial determinants, but subjective factors such as personality, familiarity and experience that are able to influence purchasing decisions. These additional factors are a focus in studying online purchasing behaviour where Gretzel and Fesenmaier (2006) show that online recommender systems are able to recommend as well as persuade purchasing decisions. Like changing economic factors, perceptive factors also have the ability to change determinants and the decision-making processes in deciding to, and participating in tourism.

Value & Risk Determinants in Tourism Demand

Glaesser (2003) explains, and TDV research such as Kim and Wong (2006) show, that whether travel determinants are economic or non-economic, travel determinants change and in doing so, influence tourist arrivals. Risk perceptions can change the way that people perceive destinations and quantitatively, change demand in tourism markets (Glaesser, 2003, p.41).

Value perceptions, either based on qualitative aspects of destinations (Cho, 2010) or quantitative factors such as the wealth of travelers and purchasing power at destinations (Lim, 2004) are well-documented in tourism research. Together this research shows that numerous factors change people's decision to travel and that such decisions can have significant impacts on destination development.

Changes in the wealth of tourists, prices at tourism destinations, home and destination purchasing power, and price competitiveness among destinations are economic factors that can influence tourism demand. Oyewole (2004) examines price competitive of African countries and finds that changes in comparative purchasing power can influence tourism demand.

Webber (2001) examines the impact of changes in exchange rates, and purchasing power in Australian outbound tourism. Chadee and Mieczkowski (1987) study American tourism to Canada against a changing exchange rate. Belloumi (2010) finds a causal relationship in changing exchange rates between tourism growth and overall economic growth. These studies, based on different cases, show varying results, however all indicate that economic factors between places of origins and destinations have the ability to influence tourism demand, which can impact destinations.

In addition to what is of economic value, Glaesser (2003) and Kozak, Crotts, and Law (2007) explain that there are qualitative characteristics of subjectively perceived risks in tourism. Glaesser (2003, p.42) discusses different risk tendencies of tourist profiles, which can be expected to determine changes in the way tourists travel. Luhman (2005) explains that in addition to the magnitude of risk, the type of risk can deter impact decision-making. Luhman (2005) finds that environmental risks such as natural disasters are perceived as less threatening and more of a function of chance than human inflicted risks such as terrorism. In deciding to travel, Glaesser (2003, p.53) notes, tourists consider such risks when deciding to travel or not, and that such decisions have the ability to impact tourism demand.

Tourism Demand Volatility Modeling

Changes in tourism demand over time, however they are caused, are modelled in TDV research. Kim and Wong (2006) study the impacts of risk perceptions on tourism demand by comparing news impact curves and tourism demand volatility, which provides a way to model variations in tourism demand in relation to the events (and news of events) that impact them. In a study of inbound tourism in Korea, Kim and Wong (2006) find that bad news that is heard in origin countries decreases tourism demand at a greater magnitude than good news- that is, bad

news is more impactful in deterring tourism demand than good news is in attracting increased demand.

Characteristics of positive and negative shocks in tourism demand have been the focus of numerous studies in TDV. At times negative shocks have been of greater magnitude than positive shocks- that is, when tourism demand increases, it changes slower and to a lesser degree than decreases in tourism demand, which tend to happen quicker and to a greater degree (Kim & Wong, 2006; Park & Jei 2009). Studying this further, Chan, Lim & McAleer (2005) produce mixed results where Australian inbound tourism of Japanese tourists experienced greater negative shocks than positive shocks, but experience the opposite with tourism from New Zealand. Coshall (2009) found that in British outbound travel, most destinations in fact, experienced greater positive shocks than negative. This, Coshall attributes to differences in Australian's and Japanese's responses to changes in push and pull factors driving decisions to travel. While these studies do not produce consistent characteristics across different tourism markets, they do however illustrate the ability to measure volatility in tourism demand.

Numerous TDV studies have also considered the distance of travel from a tourism markets origin to destination. Most notably, all TDV studies have solely considered international tourism. While this could be a function of data availability and quality, Daniel and Rodrigues (2010) note that evidence of volatility is 'very low' for domestic demand. In contrast, island nations in geographic isolation from tourists' origins, as Shareef and McAleer (2008) note, are a function of, and subject to their surroundings, and are especially likely to experience volatility. With specialization in particular tourism development, island destinations are susceptible to changes in consumer preferences and competition, which can have serious ramifications on local economies (Shareef & McAleer, 2008). Island destinations are therefore

particularly subject to price elasticity in transportation costs, which are able to deter travel and increase TDV (Pentelow & Scott, 2010). Other studies (Kim & Wong, 2006; Pentelow & Scott, 2010) have found that tourism markets with origins that are further from destinations tend to have more volatile characteristics of demand volatility, than counties within close proximity, although no study has aggregated such results.

Modeling TDV is designed to quantify positive and negative shocks in the tourism industry (Coshall, 2009). The method for modeling such TDV is performed using a calculation of conditional variance. The conditional variance is the variance of a conditional probability distribution, which can be thought of as the expected variance of one variable, given that the value of the other is known. In the measurement of TDV, conditional variance is a measure of relative change in tourism demand in a particular tourism market, which can be used to understand and forecast variations in tourism demand based on weighted demand levels in different periods.

TDV is often modeled using the Autoregressive Conditional Heteroskedasticity (ARCH) family of models with numerous adaptations such as the Generalized ARCH (GARCH) model to suit different objectives. ARCH models were originally developed in finance (Engle, 1982; Bollerslev, 1986) and have been applied to tourism demand since. Before being applied to tourism the models underwent numerous adaptations to advance its capabilities. As Daniel and Rodrigues (2010) note, models work differently and are dependent on the characteristics of their respective data sets, which all dictate results.

TDV research can also be applied to forecasting where it is either used to forecast volatility, or used to enhance forecasting models to best predict levels of tourism arrivals (Coshall, 2009).

Impacts of Tourism Demand Volatility

The practical purpose of the measurement of TDV is to inform macroeconomic policy, private and public destination management decision-making, and marketing (Shareef & McAleer 2005; Shareef & McAleer, 2008; Harris, Doan & Wilson, 2012). Impacts of TDV can be short and long-term. Relatively short-term impacts that are subject to TDV include: foreign exchange earnings, employment, government revenue, development expenditures, tourism operator service adjustments (Shareef & McAleer, 2005), tourism development externalities (Harris, Doan & Wilson, 2012), household incomes, benefits of tourism multipliers (Chen & Chiou-Wei, 2009), and misallocated investments (Coshall, 2009). The suggested impacts caused by TDV, as they are addressed in research, are identified below in table 1.

Table 1: Suggested impacts of tourism demand volatility

| Impact | Source |
|---|------------------------------|
| Foreign exchange earnings Employment Government revenue Development expenditures Tourism operator service adjustments | Shareef & McAleer (2005) |
| Household income Benefits of tourism multipliers | Chen & Chiou-Wei (2009) |
| Misallocated investments | Coshall (2009) |
| Tourism development externalities Loss of control | Harris, Doan & Wilson (2012) |

Harris, Doan and Wilson (2012) emphasize long-term impacts of volatility, stating that the impacts of volatility are experienced most directly by local communities, who typically have little say in destination development and investment decisions. Furthermore, volatile conditions may be favourable to national and international interests that are able to hedge volatility over multiple destinations, which can reduce the amount of locally owned and operated establishments (Harris, Doan & Wilson, 2012). While the resilience and ability of geographically diversified organizations to tolerate risk can be an advantage in withstanding

industry volatility, the presence of foreign ownership can also 'leak' economic benefits from destinations relative to community ownership and production of tourism services (Harris, Doan & Wilson, 2012). These impacts make evident that TDV can not only temporarily change destinations as they are impacted by increases and decreases in tourism demand, but that volatility is also able to influence long-term tourism development, as well as the overall sustainability of a destination.

In the shorter term as well, what are impacts of volatility are, at times, issues of sustainable tourism development. The consultative process, for example, which is integral to the development of indicators (WTO, 2004, p.19) as Harris, Doan and Wilson (2012) discuss, can be diminished with in TDV. Impacts of TDV, such as household and government revenue generation from tourism are also issues in the sustainable development of tourism (WTO, 2004, p.128).

What is clear is that variations in tourism demand can impact important aspects of the sustainable development of destinations. Less clear though, is how and why tourism demand is used as an ISDT to indicate impacts generated by variation in tourism demand, such as the ones identified in TDV research. The WTO (2004, p.129), for example, identifies tourism demand as an indicator of revenues that lead to economic benefits of tourism, which as TDV studies identify, can fluctuate with tourism demand. However, the WTO (2004) does not use tourism demand to indicate employment, although employment is identified to be subject to TDV (Shareef & McAleer, 2005). In these cases tourism demand is used to indicate something that it itself is not, but something that it impacts. This leads to the question of why tourism demand is used to indicate some issues for the sustainable development of tourism and not others. Because the present use of tourism demand as an ISDT does not address the entirety of issues associated

with TDV, irrespective of what TDV research suggests that it could be used to monitor, it may therefore be of use to reevaluate the role of variations in tourism demand as an ISDT.

Understanding the potential value of monitoring tourism demand is a void between ISDT and TDV literature, which may be a result of tourism demand's lack of presence in ISDT research. While in TDV literature, tourism demand is suggested as a very impactful factor of destination management to monitor because it has the ability to impact numerous factors of development, ISDT research has only in some cases considered it as a possible indicator of sustainable development. In other words, what is known in TDV literature is that tourism demand can fluctuate and that fluctuations in tourism demand can impact numerous aspects of the sustainable development of tourism. What is also known is that ISDT are intended to monitor indicators of sustainable development specific to tourism and to inform tourism development management, which is also a concern in TDV research. What is not known, however, are the issues in the sustainable development of tourism that tourism demand indicates, how tourism demand indicates issues, and how variations in tourism demand could impact dimensions of the sustainable development of tourism that are indicated by tourism demand.

Study

The purpose of this study is to determine the potential utility of tourism demand as an indicator of sustainable development in tourism. As addressed in the literature review, the principle of using indicators to manage sustainable development is based in 'results-based management' (Tanguay & Theirrien, 2011; Twining-Ward & Butler, 2002; WTO, 2004 p. 19,37, 45). Results-based management can apply to the management of destinations as well as the development and use of ISDT programs themselves. Furthermore, ISDT programs can be

improved with continual refitting of indicators to suit the needs of destinations as they change (WTO, 2004, p.46). While ISDT research has so far primarily sought to identify possible indicators of sustainable development for destinations to implement and monitor, this study is analyze the measurement of, and potential utility of a single indicator: tourism demand.

Tourism demand (as opposed to any other possible indicator) is selected in this study on the basis that it is a commonly monitored indicator in tourism, has been the object of extensive research, and is an indicator that is applicable to all destinations. By focusing on tourism demand this study can draw from existing tourism arrivals-based research to act as previous results and inform the use of tourism demand as an ISDT.

Three objectives are listed below that support this study's purpose of determining the potential utility of tourism demand as an ISDT and guide this study's methodology. Initially, the cases of, and methods of monitoring tourism demand as an ISDT are identified. Following this, issues that can be indicated by tourism demand are identified and discussed. Finally, issues and findings from TDV studies are compared with the use of tourism demand as an ISDT to further consider the potential value monitoring tourism demand as an ISDT.

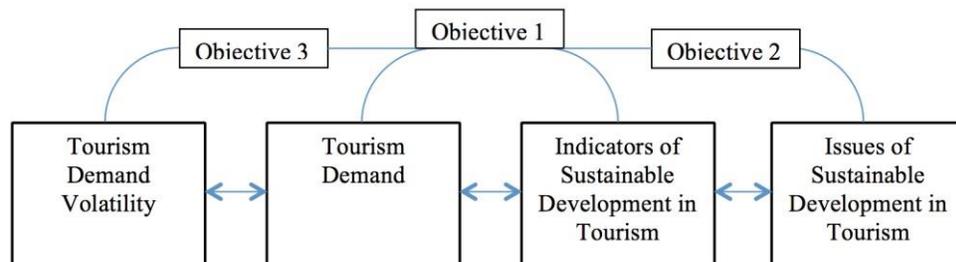
Purpose

Determine the potential utility of tourism demand as an indicator of sustainable development in tourism.

Objectives

1. Explore to what extent tourism demand is currently used as an indicator in the sustainable development of tourism.
2. Identify and discuss issues in the sustainable development of tourism that can be indicated by monitoring tourism demand.

3. Compare research to tie together methods, their implications and associated issues of tourism demand volatility research and the use of tourism demand as an indicator of sustainable development in tourism.



Together these three objectives provide a way to determine the potential utility of monitoring tourism demand as an ISDT. By exploring the extent that tourism demand is currently used as an ISDT and the issues of sustainable development that it can indicate, this study provides an analysis of the current uses of tourism demand as an ISDT. Comparing TDV research with such an analysis relays past research on changes in levels of tourism demand with the possible uses of tourism demand as an ISDT to further determine the potential utility of monitoring it as an ISDT.

Methodology

The methodology of this study is secondary research consisting of reviewing and comparing academic periodicals, books, and literature published by organizations with interests in indicators of sustainable development, tourism and related areas. This methodology is selected with the purpose of most-appropriately suiting the present progression of ISDT research. So far, a considerable focus of ISDT literature has been identifying possible indicators for destinations to implement, which has most commonly used Delphi survey methods to

develop a pool of possible ISDT. This creates an opportunity for this study to examine the indicators that primary ISDT research has produced. Moreover, as previous primary research that draws on expert opinion has not adequately produced tourism demand as a possible ISDT, to expect that similar primary methods would generate valuable data may be unreasonable when it is possible to draw on previously published research where tourism demand has been addressed and analyzed at length.

However, because tourism demand is only identified and discussed as an ISDT by the WTO (2004), this study focuses on the possible indicators that are identified in the WTO's *Indicators of Sustainable Development for Tourism Destinations: a Guidebook* (2004). The WTO ISDT guidebook is a comprehensive publication that introduces the concept of indicators of sustainable development, provides guidelines for the application of indicator programs at destinations, has a list of 736 ISDT with an explanation of associated issues, and case studies of destinations. In addition, the WTO ISDT guidebook has been used in previous academic studies (Tanguay & Therrien, 2011) to develop out of its list of indicators, indicators that would suit their particular destination of study. This book is selected as the source of data for this study for three reasons:

1. This guidebook is the largest collection of ISDT (that this author is aware of), which provides a comprehensive pool of potential indicators. Other publications of ISDT include: Reddy (2008), Choi and Sirakaya (2006), Park and Yoon (2011), and individually publish a maximum of 125 indicators.

2. This guidebook publishes supporting information vital to this study that is not included in other ISDT publications. ISDT are published in association with the issues that they indicate, along with explanations and suggestions for indicator applications, means to portray indicators,

and possible indicator interpretation methods (WTO, 2004). Other ISDT publications do not provide comparable supportive detail in association with possible indicators.

3. Tourism demand is used as an ISDT.

As the primary data source, the WTO (2004) provides a pool of possible indicators for destinations to implement. For the purposes of this study, the ISDT identified by the WTO (2004) are used to represent the total possible present uses of tourism demand as an ISDT. Additional sources such as academic periodicals are used, however, to supplement cases where greater detail than what is provided by the WTO (2004) can improve the understanding of monitoring tourism demand, the issues that it can indicate, and determining the potential value of monitoring it.

Two steps are taken in the collection and identification of indicators of sustainable development in tourism. Initially, all ISDT listed in the WTO's (2004) *Indicators of Sustainable Development for Tourism Destinations: a Guidebook* are recorded in table format, along with the issues and component of the issue that each indicator indicates and a page number as a reference. Secondly, ISDT that are monitored, at least in part, by tourism demand are differentiated from all others. The criterion for differentiation is any ISDT that can be monitored, at least in part by quantities of tourists. This creates a list of cases where tourist demand can be used as ISDT and issues that they monitor.

A level of discretion is required in differentiating between ISDT that monitor quantities of tourists and those that do not. This is because the words used to represent quantities of tourists varies indicator by indicator. At times this can be 'tourist numbers' (p.58), 'tourist arrivals' (p.112), 'occupants' (p.144), and at other times they be more vague monitoring 'seasonality' (p.211) and 'total capacity used' (WTO, 2004, p.193). While these can be

different units of analysis, they all have in common that they can be monitored, at least in part quantities of tourists. For the purposes of this study, all of these terms can fall under the umbrella of tourism demand, although not necessarily synonyms.

Analysis

The analysis of this study is guided and structured by its objectives. With the purpose of determining the potential value of monitoring tourism demand as an ISDT, the objectives of this study are to: explore the extent that tourism demand is presently used as an ISDT, identify and discuss issues that can be indicated by tourism demand, and to compare research to tie together methods, their implications and associated issues of tourism demand volatility research and the use of tourism demand as an indicator of sustainable development in tourism. Actions taken in this analysis are: identifying and categorizing uses of tourism demand as ISDT, discussing literature on issues that are indicated by tourism demand and how it indicates them, and finally, comparing literature on TDV and ISDT.

Initially, categorizing and listing the ways that tourism demand can be monitored shows the different methods of monitoring tourism demand. Adding to this, identifying and discussing the issues that can be indicated by tourism demand shows what issues that tourism demand can indicate and how tourism demand can indicate them. Finally, comparing TDV research with findings of the previous two objectives considers further. Based on past research of variations in tourism demand, the potential uses of monitoring tourism demand. Together, the current methods of, and uses for monitoring tourism demand as an ISDT as well as considering additional ways that tourism demand can be monitored will determine the potential utility of monitoring tourism demand as an ISDT.

Findings

Objective 1: Exploring to what extent tourism demand is currently used as an indicator in the sustainable development of tourism

There are 24 cases where tourism demand can be used as an ISDT. They are identified in Table 2.

Table 2: Cases where tourism demand is used as an ISDT

| Area of Issue | Components of the Issue | Indicators | Page |
|---|---|---|------|
| Effects of Tourism on Communities | General impacts on community life | Number of tourists per day, per week etc; number per sq km. | 58 |
| | | Ratio of tourists to locals (average and peak day) | |
| Coping with Epidemics and International Transmission of Disease | Impacts on tourism | % drop in visitor numbers | 102 |
| | | % drop in room occupancies | |
| | | Length of time taken to recover back to pre outbreak levels of visitation and room nights | |
| Tourist Security | Impacts of incidents on tourism sector | Number of % change in tourist arrivals | 106 |
| | | % change in occupancy rates | |
| Local Public Safety | Crime prevention and control | Level of policing (police per tourist) | 109 |
| Capturing Economic Benefits from Tourism: Tourism Seasonality | Measuring degree of seasonality (and the results of management actions to respond this issue) | Tourist arrivals by month or quarter (distribution throughout the year) | 112 |
| | | % of annual tourist arrivals occurring in peak month, in peak quarter | |
| | | Ratio of number of tourists in peak month to lowest month | |
| | | Occupancy rates for licensed (official) accommodation by month (distribution throughout the year) | |
| | | % of all occupancy in peak quarter (or month) | |
| Community and Destination Economic Benefits | Tourism revenue | Tourist numbers | 129 |
| | | Occupancy rates in accommodation establishments | |

| | | | |
|--|--|---|-----|
| Competitiveness of Tourism Businesses | Vitality of the industry | Occupancy rates for Accommodation | 144 |
| Controlling Tourist Activities | Total numbers of tourists visiting the destination or key sites, peak numbers of tourists stressing the limits of capacity | Total tourist numbers (mean, monthly, peak) (categorized by their type of activity) | 193 |
| | Measuring and managing the intensity of use of the destination | Number of tourists per square meter of the site (per square kilometer of the destination) - mean number/peak month average/peak day | |
| | Levels of use relative to design capacity/other capacity measures | % of total capacity used (average and peak) | |
| Destination Planning and Control | Performance of the tourism industry | Tourist Numbers over time/purpose of visit | 205 |
| Tourism-Related Transport | Knowledge of tourism related mobility patterns | Tourist numbers visiting site (including one-day visits) | 211 |
| | | Annual number of same-day visitors | |
| | | Seasonality of tourism and length of stay | |
| Air Transport - Responding to Changes in Patterns and Access | Security | Guards or officials per traveller | 220 |
| Designing Products and Services | Economic Impacts: - on towns and communities along the routes - how is tourist spending distributed along the route | Number of stops per tourist on route | 224 |

Source: WTO (2004)

The different ways of monitoring tourism demand can be categorized in three groups: without dependant context (i.e. tourism demand as a raw number of arrivals at destinations), in temporal context (i.e. the monitoring of tourism demand in reference to a context of time (for example: the distribution of tourism throughout a period of time)), and geographic context (i.e. the monitoring of tourism demand is reference to attributes of destination (for example: a ratio of tourism demand to the geographic area of a destination)).

In cases where tourism demand is monitored, or has the option to be monitored in numerous contexts, such as against both time and geography, indicators will appear in both categories with an indication (“+”) that it is included in multiple categories.

Monitoring total tourist numbers.

There are four cases where tourist numbers are ISDT, each of which indicates different issues of sustainable development (see table 3). While in some cases these indicators monitor tourist numbers (as a raw number) without context, in some cases, additional detail can be applied for additional context. However each of the indicators above are able to signal an overall quantity of tourists.

Table 3: Cases where total tourism demand is used as an ISDT

| Area of Issue | Components of the Issue | Indicators | Page |
|---|--|---|-------------|
| Community and Destination Economic Benefits | Tourism revenue | Tourist numbers | 129 |
| Controlling Tourist Activities | Total numbers of tourists visiting the destination or key sites, peak numbers of tourists stressing the limits of capacity | Total tourist numbers (mean, monthly, peak) (categorized by their type of activity) + | 193 |
| Destination Planning and Control | Performance of the tourism industry | Tourist Numbers over time/purpose of visit | 205 |
| Tourism-Related Transport | Knowledge of tourism related mobility patterns | Tourist numbers visiting site (including one-day visits) | 211 |

Source: WTO (2004)

The number of tourists visiting destinations is an important factor for numerous stakeholders in tourism. For destinations, the number of tourists can signal competitiveness of destinations amongst each other in tourism markets. Tourist numbers can be a signal of industry performance for tourism service providers and other businesses with interests in tourism. For

governments and social groups, numbers of tourists can be important for indicating and estimating tourism's impacts.

As well as the interest group, the meaning of the number of tourists depends on the scale of consideration. Most notably, in 2012 the World Tourism Organization estimated that international tourism, for the first time, passed one billion tourists, which is accompanied with the promotion of one billion opportunities for tourism to enhance tourism (UNWTO, 2013a). On smaller scales, tourism destinations and regions attribute growth in tourism with growth in aspects of social and economic development such as wealth, employment and infrastructure development (Mbaiwa, 2003). This is the 'standard view' of the benefits of having increases tourist numbers: tourism arrivals lead expenditures and enhance the economy and well-being of locals (Dwyer, Forsyth, Madden & Spurr, 2004). The total number of tourists is therefore a commonly used indicator in tourism for indicating an overall level of tourism.

The measurement of total tourist numbers is based on counting the quantity of tourists at a destination. Tourism demand data can be collected from different sources, which depend of the statistical services at destinations. Furthermore, depending on the source of data, additional detail can be collected with demand data, such as the purpose of a tourist's visit and their country of origin, which add detail to demand data that can compliment its monitoring as an ISDT.

Tourist arrival data can be collected from national border statistics and statistics of accommodation establishments (UNWTO, 2013b). National border crossings are concentrated points where tourists enter countries and opportunity for destinations to count international tourists. Collecting tourist arrival data at accommodation establishments is another source of monitoring tourism demand. The difference between the two is that national border statistics monitor international travellers, regardless of their accommodation once they have entered a

country and that tourist arrival accommodation establishment statistics monitor the number of tourists that stay at registered accommodation establishments, not all tourists.

Additional data can be collected with arrival numbers that add detail to tourist demand. From both national border and accommodation establishment statistics, arrival data can be collected with tourist's country of origin. Moreover, data can be collected on the actions one they have arrived. At national borders, entry declaration cards request that tourists state their purpose of travel. Also, accommodation establishments can monitor numbers of bed nights in addition to arrivals, which can indicate the length of time that tourists stay as well as the total number of tourists at any given time.

This additional detail can compliment monitoring tourism demand data as ISDT by categorizing possible tourist behaviour in sub-aggregates. By monitoring a tourist's purpose of visit, business tourists, for example, can be separated from leisure travellers, which could interact with destinations differently. While a leisure tourist may primarily interact with the recreational services of destinations, business tourists may primarily interact with business services. The value of collecting sub aggregates of tourism demand based on traveller profiles of their country of origin or possible activities is that tourist profiles add meaning to total demand figures by indicating how different amounts of tourists may be expected to interact with destinations differently.

Of course, monitoring tourism demand requires that destinations are able to collect arrival data, which may or may not be the case. With destinations ranging in size from communities to countries, it is possible that different destinations have different abilities in collecting data. Countries, for example, with border control and federal statistic agencies, have resources for collected tourism demand data, which small communities may not have.

Monitoring tourism demand in temporal context

Increments of time can be used in with tourist numbers as ISDT to include detail that create context and resemble issues in tourism development. Finer details of patterns in tourist flows such as tourist numbers per week or month are able to provide more precise detail of tourist numbers in any given period of time. This finer detail also allows indicators to be manipulations of tourist numbers in time that more accurately depict issues in sustainable development such as: the distribution of tourists throughout a year, changes in tourist numbers in periods over previous years, or monitor unexpected changes and recoveries in tourism flows. While total tourist numbers (in an unspecified or annual period) can be an indicator of overall aspects of tourism, the collection of incremental tourist numbers provides more specific data that can be ISDT themselves and can be manipulated to be monitored in temporal context that makes tourist numbers relatable to issues of sustainable development.

Table 4: Cases where tourism demand is used in temporal context as an ISDT

| Area of Issue | Components of the Issue | Indicators | Page |
|---|---|---|------|
| Effects of Tourism on Communities | General impacts on community life | Number of tourists per day, per week etc; number per sq km. | 58 |
| Coping with Epidemics and International Transmission of Disease | Impacts on tourism | % drop in visitor numbers | 102 |
| | | % drop in room occupancies + | |
| | | Length of time taken to recover back to pre outbreak levels of visitation and room nights | |
| Tourist Security | Impacts of incidents on tourism sector | Number of % change in tourist arrivals | 106 |
| | | Number of % change in occupancy rates | |
| Capturing Economic Benefits from Tourism: Tourism Seasonality | Measuring degree of seasonality (And the results of management actions to respond this issue) | Tourist arrivals by month or quarter (distribution throughout theyear) | 112 |
| | | % of annual tourist arrivals | |

| | | | |
|--------------------------------|--|---|-----|
| | | occurring in peak month, in peak quarter | |
| | | Ratio of number of tourists in peak month to lowest month | |
| | | Occupancy rates for licensed (official) accommodation by month (distribution throughout the year) | |
| | | % of all occupancy in peak quarter (or month) + | |
| Controlling Tourist Activities | Total numbers of tourists visiting the destination or key sites, peak numbers of tourists stressing the limits of capacity | Total tourist numbers (mean, monthly, peak) (categorized by their type of activity) | 193 |
| | Measuring and managing the intensity of use of the destination | Number of tourists per square metre of the site (per square kilometre of the destination) - mean number/peak month average/peak day + | |
| | Levels of use relative to design capacity/other capacity measures | % of total capacity used (average and peak) | |
| Tourism-Related Transport | Knowledge of tourism related mobility patterns | Seasonality of tourism and length of stay | 211 |
| | | Annual number of same-day visitors | |

Source: WTO (2004)

ISDT that consider tourist numbers in temporal context are depicted in Table 4. Some indicators are the number of tourists in specific time periods such as tourists per day, week or month. Others indicators compare tourist numbers in different periods of time, such as comparing peak to low levels. The different ways that tourist numbers are manipulated with respect to time to signal issues in sustainable development are identified and summarized below:

- Changes in tourist numbers in one period from another are a way to assess a quantity of tourist numbers relative to a different quantity that acts as a benchmark. This provides a present level of tourist numbers that is in context to relatable periods of time. Changes in tourist numbers can be monitored by comparing present tourist numbers as a ratio to

previous numbers. In these cases, present tourists numbers can be divided by, or subtracted from previous numbers, to assess changes in tourist numbers as a ratio or raw number.

- The length of time that tourism demand levels take to reach a certain level, such as a the length of time that it takes for tourist numbers to recover to the level that they were before a crisis, is a count of the time that passes before tourist numbers reach a benchmark. This indicator is a supplemental way of monitoring changes in tourist numbers that measures the velocity of change (rather than the magnitude of changes, such as the percent change over time).
- Comparing tourist numbers in different periods can monitor the distribution of tourists numbers throughout the year. The distribution of tourist numbers can be general indicators of distribution such as ‘distribution throughout the year’ and ‘seasonality’ (WTO, 2004, p.112, 211). It can also be indicated by more specific metrics such as comparing peak periods, such as the month or period with the greatest number of tourists, with other periods, such as the lowest or average number of tourists. Ratios are used to compare tourist numbers in different periods.

When tourist number data is collected with increments of time, tourist numbers can be monitored in relation to specific periods of time. This allows for a close analysis of tourist flows over time as well as for data to be manipulated, such as with indicators that monitor tourist numbers with reference to different periods that more accurately depict issues in the sustainable development of tourism.

Monitoring tourist numbers in geographic context

Numerous ISDT monitor tourist numbers in relation to attributes of destinations. These indicators can be measures of tourists per attributes of destinations and vice versa. For example, indicators can monitor the number of tourists per geographic area. As a metric, ratios are used to monitor tourist numbers in relation to destination attributes. The purpose of these indicators is to relate the number of tourists to destinations as they affect sustainable development.

Table 5: Cases where tourism demand is used in geographic context as an ISDT

| Area of Issue | Components of the Issue | Indicators | Page |
|---|--|---|------|
| Effects of Tourism on Communities | General impacts on community life | Number of tourists per day, per week etc; number per sq km. | 58 |
| | | Ratio of tourists to locals (average and peak day) | |
| Coping with Epidemics and International Transmission of Disease | Impacts on tourism | % drop in room occupancies + | 102 |
| Local Public Safety | Crime prevention and control | Level of policing (police per tourist) | 109 |
| Community and Destination Economic Benefits | Tourism revenue | Occupancy rates in accommodation establishments + | 129 |
| Competitiveness of Tourism Businesses | Vitality of the industry | Occupancy rates for Accommodation | 144 |
| Controlling Tourist Activities | Total numbers of tourists visiting the destination or key sites, peak numbers of tourists stressing the limits of capacity | Total tourist numbers (mean, monthly, peak) (categorized by their type of activity) | 193 |
| | Measuring and managing the intensity of use of the destination | Number of tourists per square meter of the site (per square kilometer of the destination) - mean number/peak month average/peak day | |
| | Levels of use relative to design capacity/other capacity measures | % of total capacity used (average and peak) | |

| | | | |
|--|---|--------------------------------------|-----|
| Air Transport - Responding to Changes in Patterns and Access | Security | Guards or officials per traveller | 220 |
| Designing Products and Services | Economic Impacts: - on towns and communities along the routes - how is tourist spending distributed along the route | Number of stops per tourist on route | 224 |

Source: WTO(2004)

Table 5 lists the ISDT that monitor tourist numbers as a ratio to attributes of destinations. Attributes of destinations that tourist numbers are monitored in ratio to can be summarized in five categories:

- The geographic size of destinations, measured in the geographic surface area of the destination
- The number of locals
- Accommodation capacity, where occupancy rates can be measured as tourist numbers to the bed unit capacity of destinations.
- Destination capacity design, which can be measured as the number of stops for tourists or the total ‘capacity’ of tourist numbers that destinations have.
- The number of police, guards and/or security officials

Monitoring the ratio of number of tourists to each of these categories of attributes is a way of making sense of tourist numbers by comparing them with quantifiable attributes of destinations. This can benefit the monitoring and rationalization of tourist numbers and can also benefit the monitoring of destination attributes. For example, the number of bed units may be of less use than the number of tourists to bed units, which is a measure of actual occupancy rates as

opposed to possible occupancy rates. In this sense, monitoring tourism numbers in relation to destination attributes can enhance monitoring tourist numbers as well as other attributes of destinations that are impacted by tourist numbers. In either case, monitoring tourism demand as a partial component of an indicator by also considering attributes of destinations is a way of monitoring tourism demand in context to destination features as well as adding context to features of destinations that can be impacted by tourism demand.

The extent that tourism demand is used as an ISDT

Comparing the three different ways of monitoring tourism demand, it is evident that different aspects of tourism demand create different values in monitoring demand as an ISDT. Total tourist numbers provide an overall level of tourism demand, which signals an overall level of tourism. When finer tourism demand data is collected, however, tourism demand levels can be manipulated over different periods of time. The technique of manipulating demand data in temporal context provides relatively closer look at issues with changes in tourism demand. When tourism demand data is monitored relative to attributes of destinations, geographic context is applied to levels of demand. This more closely relates tourism demand to the sustainable development of destinations. These three ways of monitoring tourism demand add value differently as they indicate different aspects of the relationship between demand and the sustainable development of tourism.

Objective 2: Identifying and discussing issues in the sustainable development of tourism that can be indicated by monitoring tourism demand

Numerous different issues for the sustainable development of tourism can be indicated by tourism demand. To analyze issues and how they can be indicated by tourism demand, issues are categorized to group together like issues, separate from distinct issues. Based on table 1, twelve

‘areas of issues’ can be indicated by tourism demand. These twelve can be further categorized to five types of issues: 1) transportation of tourists to and from as well as around destinations, 2) crises of shocks to the industry, 3) economic benefits of tourist’s spending, 4) controlling tourism activities, and 5) destination planning. (see table 6). The basis of this categorization is on the area and components of issues, the use of tourism demand to indicate them, and supporting literature that suggests whether issues and the use of demand indicating them are unique or alike. The results of this categorization are five types of issues that can be discussed as they relate to the use of tourism demand to indicate them.

Table 6: Categories of issues for the sustainable development of tourism that are indicated by tourism demand

| Area of Issue | Components of the Issue | Category of Issue |
|---|--|---------------------|
| Effects of Tourism on Communities | General impacts on community life | Controlling Impacts |
| Local Public Safety | Crime prevention and control | |
| Controlling Tourist Activities | Total numbers of tourists visiting the destination or key sites, peak numbers of tourists stressing the limits of capacity | |
| | Measuring and managing the intensity of use of the destination | |
| | Levels of use relative to design capacity/other capacity measures | |
| Coping with Epidemics and International Transmission of Disease | Impacts on tourism | Crises |
| Tourist Security | Impacts of incidents on tourism sector | |
| Capturing Economic Benefits from Tourism: Tourism Seasonality | Measuring degree of seasonality (and the results of management actions to respond this issue) | Economic Benefits |
| Community and Destination Economic Benefits | Tourism revenue | |
| Competitiveness of Tourism Businesses | Vitality of the industry | |
| Destination Planning and Control | Performance of the tourism industry | Planning |
| Designing Products and Services | Economic Impacts: - on towns and communities along the routes - how is tourist spending distributed along the route | |

| | | |
|---|--|----------------|
| Tourism-Related Transport Air Transport - Responding to Changes in Patterns and Access | Knowledge of tourism related mobility patterns | Transportation |
| | Security | |

Source: WTO (2004)

As each category of issues is discussed, attention is given to firstly, understanding the issue and its relation to sustainable development, and secondly, explaining the use of tourism demand in indicating issues.

Transportation

The transportation of tourists to, from and around destinations is an issue for the sustainable development of tourism because of the importance of understanding mobility patterns and the environmental impacts of transportation use. The accessibility of destinations from tourists' homes and the mobility of tourists around destinations are linked to the competitiveness and success of destinations (WTO, 2004, p.211). Also, the different modes of transportation that are available to, and used by tourists can generate varying impacts on the environment such as greenhouse gas and air pollutants as well as energy and land use (*ibid*). As an ISDT, tourism demand can be monitored for knowledge of tourism related mobility patterns and safe transportation (WTO, 2004, p.211, 220).

Understanding tourists' travel patterns to and from destinations and their mobility patterns at destinations is an issue because travel expenses and inconveniences can deter tourism (WTO, 2004, p.210). Understanding deterrents facing tourists can be useful for developing deterrent management strategies. Drawing on the different ways of monitoring tourism demand, monitoring demand to understand travel costs is valuable for numerous reasons:

- Monitoring the distribution of tourists throughout the year can inform transportation service provider seasonal peak-load pricing decisions. Monitoring tourism demand levels in association with transportation prices can indicate how changes in prices affect demand levels and are likely to do so in the future. Transportation service providers can use this information to most effectively set prices for business profitability.
- Demand levels of market segments by different tourists' nationalities can be used to understand different costs associated with greater travel distances to destinations. As Pyo, Uysal and McLellan (1991) finds, demand for transportation is the most sensitive tourism expense with changes in tourists' income. Furthermore, Prideaux (1999) contends, transportation can impose a significant financial and temporal cost to tourism, particularly with long-distance travel. With transportation being a significant cost, monitoring tourism demand levels of tourists' nationalities can be used to understand how different travel costs can affect different market segments and how changes in costs can impact total demand for destinations.

The value of monitoring tourism demand levels and transportation costs is that, with transport costs impacting tourist numbers, changes in transport costs can be used to develop expectations of future demand levels. An example of this is a study by Tol (2007), which develops a model for estimating the impact of imposing a carbon tax on international flights. Tol (2007) concludes that while all tourist markets would likely be impacted by raised prices, different markets, such as long distance travel markets, would be affected greatest because they require the greatest fuel. At a practical level, the impact transport costs have on demand levels and the ability to estimate future impacts can inform policy and tourism service pricing decisions.

Tourist numbers can also be monitored relative to the number of airport security officials as an indication of the level of security at a destination. This indicator monitors tourist numbers, which represent the total possible tourist population that could require assistance, and the number of security officials, representing the ability of destination officials to provide security.

The costs discussed so far are in reference to travelling to and from destinations, but travel at destinations can also be seen as an inconvenience and deterrent to tourism. As destination transportation relates to levels of tourism demand, transport congestion, which can be thought of as the amount of tourists relative to a destinations routes and services. Studying congestion, Wie and Choy (1993) show that traffic at destinations can impose costs to tourists as well as local residents, which should be considered in the management of tourism development. The role of tourism demand indicating possible congestion is that tourist numbers can be held in context of the required movement of people to different areas of destinations and the capacity of destinations to indicate levels of congestion. Accounting for additional details or categories of transportation patterns such as the amount of same-day visitors can be used to better understand likely congestion at destinations.

The value of monitoring tourist numbers is that understanding travel patterns can contribute to understanding how travel impacts tourism. Monitoring tourism numbers of different markets in reference to travel routes and costs could, for example, indicate potential target markets for tourism growth and could be realized with improved transport systems. Likewise, monitoring the number of same day visitors, which travel to and from a site on the same day, is a way for making better estimates of potential congestion and costs in transportation.

Although environmental impacts are a reason to monitor indicators of transportation sustainability, they are not indicated by tourism demand. Indicators of the environmental impacts

of transport focus on the supply of services, such as the different modes of transportation available to tourists, where different modes of transportation have different levels of impacts such as carbon emissions in tourism in general or per tourist, without discussing a relation to tourist numbers. Academic studies looking at such topic include Gossling (2002) estimating that long distance travel accounts for 90% of global tourism transportation energy consumption and Martin-Cejas and Sanchez (2010) concluding that personal transportation such as cars can be a significant portion of a destination's ecological footprint.

Despite that tourist numbers aren't used to indicate transportation's environmental impacts, as suggested in previous research, tourist numbers can; be considered in the development of new modes of transportation (Albalate & Bel, 2010). Furthermore, Guirao and Soler (2008) show that developing rail services for large numbers of same day visitors from cities to local tourist sites can improve transportation and the tourist experience compared to bus and private transportation, which was used previously. These cases suggest possible further value in understanding more potential links between transportation and the tourism demand.

Crises

Tourism demand can be used to indicate the impact that crises can have on tourism. A crisis in tourism can be defined as any occurrence that threatens the normal operations and conduct of tourism related business or negatively affect visitors' perceptions of a destination's safety, attractiveness, and comfort, and in turn, cause a downturn in the tourism industry (Sönmez, Backman & Allen, 1994). A downturn, Sönmez, Backman & Allen (1994) suggest, is caused by a decrease in tourist arrivals and expenditures.

Tourism crises can be natural and human-induced. Examples of naturally caused crises include cyclones (Prideaux, Coglan & Falco-Mammone, 2007) and tsunamis (Sharpley, 2005),

and fires (Armstrong & Ritchie, 2007). Common human induced crises include terrorism (Kuto & Groves, 2004), financial crises (Gu, 2000) and diseases (Wilder-Smith, 2006). A common and significant aspect of tourism crisis research is the impact that crises have on tourist flows and mitigation steps that can be taken to prevent harmful decreases in tourist numbers.

The type of crisis itself can be a factor of changes in tourist numbers. For example, bushfires in the Australian Capital Territory, Australia in 2003 cause an estimated 50% decline in visitation in the region (Armstrong & Ritchie, 2007). The impacts of the bushfires largely stayed in the region. In contrast, the Severe Acute Respiratory Syndrome (SARS) outbreak in 2003 had global consequences (Wilder-Smith, 2006). As McKercher and Chon (2004) comment, tourism arrivals fell by 70% across Asia, despite that mitigation largely contained the pandemic.

In the context of sustainable development, de Sausmaraz (2007) adds that the definition of a tourism crisis would include 'long-term and fairly distributed economic operations, stable social services, and poverty alleviation. In the sustainable development of tourism, then, a tourism crisis can be thought to include the causes, decreases in tourism arrivals and expenditures as perceptions of security deter tourism, as well as the impacts that such decreases can have on tourism destinations.

An example of the impacts that dramatic decreases in tourism demand can have on tourism development are the bombings in Bali, Indonesia in 2002, where 202 people, including tourists and locals were killed. Tourist arrivals to Bali decreased to 21% of their previous levels within a month (World Bank/United Nations Development Program (UNDP), 2006). Where hotel occupancies rates otherwise ranged between 65% and 100%, after the bombings they were at 10% of capacity (*ibid*). As Smyth, Nielsen and Mishra (2009) mention, this had adverse economic implications for the Balinese economy. Implications include that an estimated 75% of

people working in the hotel sector had reduced shifts or were unemployed, tourism retail businesses decreased total employment by roughly 50% to 60% and that overall, household income decreased by 25% (World Bank/UNDP, 2006). Linking decreases in tourism demand with their impacts shows the potential of crises to affect aspects of sustainable development, in this case, dramatic decreases in economic benefits of tourism development.

As an ISDT, tourist numbers can be used to monitor changes in tourism demand as factors such as security and fear of illness deter tourists. Specifically, it monitors decreases in arrivals and room occupancies at destinations as well as the length of time that it takes for tourist numbers to return to their pre-crisis levels (WTO, 2004, p.102,106). Whether focusing on tourist security or epidemics and diseases, the role monitoring tourist numbers is the same: to provide a measure of the impacts of crises. As in the example of Bali, though, the impact of crises on tourism arrivals can also be monitored relative to other impacts for sustainable development to show the understand the impacts that crises can have on tourism development.

The value of monitoring tourism demand as an indicator of crises in tourism is that with changes in levels of demand being a central component of crises, it is an indication of the magnitude of crises. In crises management, limiting the impact of crises on tourism flows is a central objective, for which monitoring tourism demand adds value.

Economic Benefits

Tourist demand can most frequently be monitored as an ISDT to indicate economic benefits of tourism. Specifically, it can be used in three ways: to monitor competitiveness and vitality against other destinations (p.144), as a proximal indicator of tourist spending and the economic impacts spending can have (p.129), and to monitor the distribution of spending throughout the year, representing the ability of destinations to capture economic benefits (WTO,

2004, p.112). The purpose of monitoring tourist numbers in these cases is that as tourist numbers increase or decrease, so too will tourist spending and the economic benefits of tourism for destinations.

The premise that tourist numbers can indicate tourism's economic benefits is a common view in tourism, although its accuracy has been questioned. The logic of tourism demand leading to economic benefits is based on the input-output model, where tourist numbers are the input, tourist spending is the intermediary, and the economic impacts that spending can generate such as business and government revenues and jobs are the output (Archer, 1982). This logic is often used to estimate the impacts of the tourism industry as well as forecast impacts of expected tourism demand.

For arrivals to translate to economic benefits in practice, as Dwyer, Forsyth and Spurr (2004) discuss, however, only accounts for positive impacts and requires assumptions such as that there is freely available labor that wouldn't take away from other local industries. Additional factors that the benefits of tourist spending depend on are whether goods and services are made locally, which when they are imported, can increase leakage away from destinations and decrease the multiplication of economic benefits locally as product chains, labor remuneration and personal spending continually redistribute revenues (Wagner, 1997). Of course, this all assumes that spending per tourist is uniform, which Sheldon (1993) shows, is not always the case. As an ISDT that provides a measure of economic benefits, therefore, monitoring tourist numbers can be complimented by accounting for additional factors that determine economic benefits.

Accommodation occupancy rates can also be an ISDT for monitoring economic benefits (WTO, 2004, p.129). Using accommodation occupancy rates to monitor economic benefits is a

less studied topic in tourism research, although provides a useful way of relating tourist numbers to a destinations capacity to house tourists. In destination development, constructing and maintaining accommodation may assume a level of preparedness for tourists and commitment towards tourism in the local economy, which could be a way to more closely relate tourist numbers to local context and their potential economic impacts. This idea, however, could benefit from similar empirical research that has been performed with arrivals-based data.

In addition to the size, the distribution of economic benefits through a year is an issue of sustainable development. Tourism seasonality is typically a temporal imbalance in tourism demand as a result of push factors from tourists' homes and pull factors from destinations, which more or less repeat annually (Jang, 2004). The issue with this imbalance is that it can put stress on facilities and services in the low and high seasons. If capacity is developed for high seasons, it can be underused in low seasons and if the capacity is lower, it can be over-stressed in high seasons (WTO, 2004, p.115). While seasonality can have beneficial aspects for destinations, such as breaks from stresses in the low season for natural environments and local residents (Ball, 1988; Butler, 1998), extending the high season and reducing the low season can be a goal of destination management (WTO, 2004, p.114).

The distributions of tourist numbers and occupancy rates over different periods of the year are indicators of seasonality as well as an indicator of success in decreasing seasonality. It is possible, however, that tourist number and occupancy rates have different advantages in monitoring seasonality. The distribution of occupancy rates throughout the year is a ratio of used accommodation to total available accommodation space. This allows tourism demand seasonality to be rationalized to the scale of destination infrastructure, which relates tourism numbers to local economic investments in tourism. Tourist numbers, in contrast, represent seasonality

without relating demand to destinations' investments and may comparatively suit monitoring the success of seasonality mitigation efforts like off-season marketing campaigns.

Monitoring tourist numbers as an indicator of economic benefits is a common idea, but complicated. For tourist numbers to indicate tourism revenue, tourist expenditure data is also needed. Furthermore, for tourism revenue to translate to economic benefits of destinations, many additional factors such as features of the local economy must be considered. Tourism demand can also be monitored to measure the degree of seasonality, which can cause stress to destinations differently depending on the period of season. In each of these cases, applying additional data to tourism demand, such as available accommodation with occupancy rates, allows tourism demand to more clearly indicate potential economic benefits of tourism.

Control

Controlling tourist activities and destination use intensity is an issue for the sustainable development of tourism that can, in part, be indicated by levels of tourism. As the WTO (2004, p.192) comments, the question of "how many tourists are too many?" is probably the most looked at question in destination management. Monitoring tourism demand relative to desired levels of use can indicate when standards or thresholds are expected to be reached as well as other related issues of sustainable development that are affected by destination use intensity (*ibid*).

The premise of controlling use intensity is that destinations and features of destinations have a maximum capacity for tourists, which if exceeded, can cause issues for aspects of sustainable development. The capacity of tourists at a destination is commonly referred to and studied as the carrying capacity. The carrying capacity in tourism, as Mathieson and Wall (1982) define it, is the maximum number of people who can use a site without unacceptable alteration in

the physical environment and decline in the quality of experience gained by visitors. The use of tourism demand in indicating capacity use is based on destinations having a finite capacity for tourists, given individual tourist's consumption of a destination's resources and space, and that demand can be monitored relative to this capacity to potentially inform mitigation strategies for decreasing demand.

In addition to the number of tourists, the activities of tourists and the way they interact with destinations can determine use intensity, which also impacts capacity use. This is the premise of the 'footprint' indicator, a paradigm shift away from the carrying capacity, that monitors individuals' impacts (Wackernagel & Reese, 1999). Individuals' use impacts in tourism, however, aren't easily attributable to theoretical geographic space as they are in a footprint concept because impacts are specifically felt at destinations and their features. Kostopoulou and Kyritsis (2006) studying protected areas, for example, find that use impacts can depend on the density and distribution of sites. They note that in sensitive areas the dispersion of tourists can decrease impacts while in less sensitive areas, concentrating tourists can decrease the total impacts of use. Information about actions and activities of tourists can therefore be used to complement levels of tourism demand.

The value in monitoring tourism demand for controlling use intensity is a quantitative one where tourists and destination space, regardless of their qualitative aspects, can be monitored, aggregated, and compared. Its value is much like other uses of monitoring demand as an ISDT, where it is an indicator that adds value to monitoring issues by providing an overall level of tourism, but can most accurately represent issues by providing an overall level of the amount of tourism as a partial indicator with others.

Planning

Tourism demand can be used as an ISDT for its ability to inform decision-making in planning. Planning, as WTO (2004, p.204) suggests, is linked with sustainable development because careful destination planning is able to account for adverse effects of development, incorporate them in plans and alleviate them in advance. Furthermore, McCool (1994) suggests that technical planning systems that address issues and force explicit decision-making in addition to a public involvement process are a requirement of managing sustainability. In this context, ISDT can be thought of as a technical component of planning systems that are able to address issues and provide explicit information to advise planning decisions.

The role of ISDT in the planning process, WTO (2004, p.204) explains, is threefold: information from indicators can feed into and inform the planning process, ISDT can be used to evaluate sustainable aspects of plans throughout planning cycles, and assess planning and policy frameworks of destinations. The role of indicators then, is informative and evaluative.

The use of tourism demand as an indicator in the planning process, however, is more specific. Tourism demand can be used in for planning to indicate industry performance and, in cases where destinations are routes or stops along tourists' routes, the distribution of economic benefits along a route (WTO, 2004, p.205, 224). Here, tourism demand can indicate a level of industry performance that can feed into the planning of service supply levels to suit expected demand levels.

It is also possible, however, that with planning being able to incorporate adverse impacts affecting the sustainable development of tourism (WTO, 2004, p.204), indicators of tourism demand could also be used in the planning of management of the issues identified earlier in this section that demand can indicate. This would become particularly useful as planning in tourism

transitions from rigid master planning to more flexible strategic with regular reviewing of indicators (*ibid*). Here, levels of tourism demand can continually feed into planning of the numerous issues it can indicate.

With planning being a point in tourism development of gathering and preparation before future occurrences, and tourism demand representing the quantitative aspect of the ‘demand side’ of the ‘supply and demand’ relationship of tourism development, demand data can be related to, and considered in planning to generate expected or target levels of future demand. This can be relayed to issues of sustainable development that demand indicates to inform planning decisions.

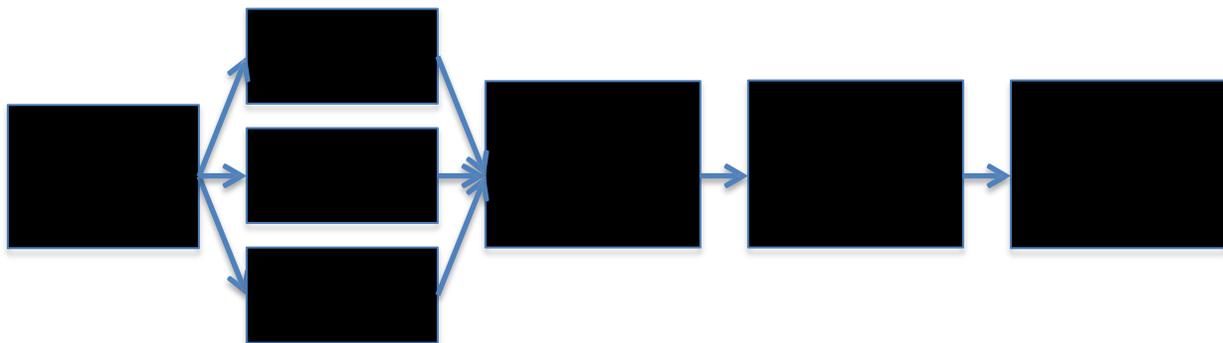
How Tourism Demand Indicate Issues for the Sustainable Development of Tourism

The number of tourists that visit destinations is a central component of tourism development. As demand indicates individual issues for the sustainable development of tourism, it does so differently. How it does so depends on two factors: Firstly, it depends on the relationship between demand and the issue it indicates. Tourism demand can be monitored as a signal of the magnitude of issues as well as to indicate the impact that demand can cause to issues. As a signal of issues, demand depicts the issue itself. An example of this is in tourism crises, where monitoring levels of demand and their recovery is the focus of crisis management. When demand is used to indicate issues where demand impacts issues, demand is used a causal factor that can indicate issues. Whether as a causal factor of impacts to issues or as a signal of issues themselves, the relationship between tourism demand and the issues it indicates is based in that demand can be used to represent issues.

Secondly, how demand indicates issues depends on the nature of the issue itself. At times issues are not in fact problems, but are means to manage issues. This is the case with planning, where the utility of monitoring demand for planning purposes is not that ‘demand indicates

planning,' but that demand can be used as reliable information to consider in the planning process. The difference between using demand as reliable information and using demand to indicate issues or causes of issues is that as demand indicates issues and their causes, it in some way represents an issue, while as reliable information it doesn't represent issues but can still be considered in addressing issues.

The diagram below depicts how tourism demand can be used as an indicator of issues for the sustainable development of tourism. As a signal of issues, demand can be used to represent issues. This is similar to the use of demand a causal factor, where demand itself is not the issues, but can still be used to represent it. Tourism demand can also be used reliable information to issues.



Objective 3: Comparing tourism demand volatility research with the use of tourism demand as an indicator of sustainable development in tourism

A primary reason for monitoring ISDT is that over time, they change. Tourism demand is a prime example of this, which can fluctuate from season to season and year to year. TDV research is the quantification of variations in tourism demand and can be related to ISDT to understand how tourism demand fluctuates and the implications of such fluctuations for the sustainable development of tourism.

In this third section of analysis TDV research is compared with the use of tourism demand as an ISDT. In line with the previous two objectives, emphasis in comparatively reviewing TDV and ISDT research is given to the methods used for monitoring tourism demand and issues that tourism demand implicate. In this section, however, there is added value from results of past TDV research that illustrates changes in tourism demand, which can be used to further consider the value of tourism demand as an ISDT. To comparatively analyze the metrics used and their implications TDV and ISDT research, a broad structure is followed where initially, relevant aspects of TDV are introduced, and then are compared with the use of tourism demand as an ISDT.

The Conditional Variance of Tourism Demand

TDV research focuses on the measurement of variations in tourism demand in response to factors that can cause it to change. The measurement of TDV is based in econometrics, where variables can be monitored relative to one another, and as they fluctuate, can be measured to estimate the impact that one variable can have on the variance of another. The value of developing, applying and analyzing these relationships in monitoring tourism demand is that variations in tourism demand can be monitored in relation to factors that cause it to fluctuate.

Examples of the cause and effect relationship between tourism demand and things that relate to them include a study of the effects of news of destinations heard in tourists' origins on destinations' levels of tourism demand (Kim and Wong, 2006). Other studies model TDV to better understand characteristics of fluctuations or to forecast volatility.

In TDV research, the measurement of conditional variance can be used to understand and forecast variations in tourism demand based on weighted tourism demand levels in different periods. TDV is often measured using the Autoregressive Conditional Heteroskedasticity

(ARCH) family of models with adaptations such as the Generalized ARCH (GARCH) model.

These models calculate conditional variance and are often used in studies of TDV. The GARCH model, for instance, measures the weighted average of the unconditional variance in tourism demand, the squared residual for the first observation (such as monthly tourism arrivals) and the starting variance to estimate the variance of later observations. When this is repeated over numerous observations, conditional variance models of tourism demand can be constructed that show how tourism demand fluctuates.

The similarities between monitoring changes in tourism demand using a measure of conditional variance and the metrics presented in WTO (2004) illustrate the usefulness of considering TDV in the context of ISDT research and potential further value in monitoring tourism demand for sustainable development. The most notable similarity in the measurement of TDV and the use of tourism demand as ISDT is that they both use a measure of tourism demand in temporal context. This allows them to monitor changes in tourism demand levels in different periods, which can depict relative levels of tourism demand and relative patterns in changes in tourism demand levels.

Compared to the methods of monitoring tourism demand as an ISDT, TDV research typically uses a relatively more advanced metric (which in its current application, is a more abstract metric) that represents a different aspect of tourism demand and implications for tourism development. Modeling the conditional variance of tourism demand provides an ongoing, relative measure of variations in tourism demand. In comparison, WTO (2004) presents metrics for monitoring changes in tourism demand that compare specific periods to one another, such as peak to low season observed demand levels (WTO, 2003, p.112). The comparative advantages between these two is that the use of tourism demand as an ISDT monitors specific changes as

they depict issues for the sustainable development of tourism while the conditional variance is an ongoing measure of changes in tourism demand in all periods.

An significant additional difference is that, measuring conditional volatility can be used to forecast future levels of expected volatility (Coshall, 2009), which in comparison to metrics for monitoring past fluctuations in tourism demand as an ISDT, is a relatively present and forward-focused measure of changes in tourism demand. With many of tourism products being perishable services, the ability develop present and future expected levels adds value to tourism service providers by being able to preemptively allocate resources rather than they might otherwise (Schutze, 2008).

The potential value of monitoring TDV also extends to the primary function of ISDT: to act as early warning signs of risks and mounting issues in tourism development (WTO, 2003, p.7,8). The ability of changes in tourism demand to be linked with issues and TDV to be forecasted suggests the potential ability to predict changes in issues. With this possibility, TDV modeling could act as an early warning sign of risks and mounting issues and inform prevention and mitigation management measures.

Implications of TDV research

The value of TDV research is in its ability to characterize variations in tourism demand and relate them to characteristics of destinations to develop an understanding of the impact of fluctuations in tourism demand.

Possibly the most emphasized characteristic of TDV in research is the asymmetric effect of volatility in positive versus negative changes. As Park and Jei (2009) note, volatilities are likely to be high when there are significant drops rather than increases in tourism demand. This is consistent with other studies (although not all), where when tourism demand decreases, it does

so relatively dramatically in comparison to increases in tourism demand, which tend to happen more gradually (Kim & Wong, 2006). The implication of this is that tourism demand for destinations can decrease quicker than destinations are prepared for. Furthermore, in linking tourism demand to the issues that it can indicate as an ISDT, such as the economic benefits of tourist's spending, monitoring TDV can provide an indication of changes in the issues that it indicates.

The Characteristics of TDV, however, are not always the same for different demand source markets. Increases in tourism demand in market segments can be more volatile than decreases (Chan, Lim & McAleer, 2005; Coshall, 2009). This, of course, can also be linked with the issues that tourism demand indicates as an ISDT, such as controlling tourist activities. Issues that are impacted with increases and decreases tourism demand, as Shareef and McAleer (2008) note, can be out of the control of destinations that can be severely affected by them. Monitoring and understanding the characteristics TDV can add value to the use indicators of sustainable development for informing mitigation strategies (Chan, Lim & McAleer, 2005).

The issues that TDV research suggest are linked with volatility are of a similar nature to the issues that can be indicated by tourism demand as an ISDT, although are different. Some of the issues identified are: employment, foreign exchange earnings and government revenues (Shareef & McAleer, 2005), locally owned and operated establishments and unequal distributions of economic benefits (Harris, Doan & Wilson, 2012), household income (Chen, Choi-Wei, 2009). In addition, as Coshall (2009) discusses, the nature of volatility can decrease the ability to accurately forecast future tourism demand levels and can complicate planning and policy.

Many of the issues in TDV research relate to issues for the sustainable development of tourism, particularly the economic benefits of tourism. The difference in the relationship between these issues, however, is the relationship between them and the monitoring of tourism demand. The issues identified in TDV are all impacts caused by variations or ongoing volatility in tourism demand. The implication of this furthers the conclusion that some ISDT can be used as causal indicators in addition to, or opposed to the use of indicators as a signal of issues, and that by monitoring them, ISDT can be used to indicate more aspects and potential aspects of tourism than they themselves are.

Comparing TDV research and the used of tourism demand as an ISDT

The value of comparing TDV and ISDT is that they both share the purpose of informing decision making in tourism development, but each have voids in the effectiveness of their use. While ISDT literature connects possible indicators with issues for the sustainable development of tourism, there isn't empirical research on the use of ISDT. In contrast, TDV research has solely been empirical research but is only able to suggest issues that changes in tourism demand impact. In this sense, the two areas of research seem complimentary to one another with comparative advantages in different aspects of the use of indicators for managing tourism development.

The potential value of linking TDV and ISDT in research and destination management is particularly seen in TDV research's assumption that aspects of tourism affect one another. This assumption is also relied on in ISDT literature, where tourism demand can be monitored to indicate its impact on other aspects of tourism, such as tourist spending. Drawing on this assumption suggests two possibilities: that the techniques used in TDV could be applied to the measurement of ISDT to better understand how indicators impact one another and that because TDV and ISDT research have identified different possible impacts of tourism demand than one

another, it is likely that neither area of research has yet realized the full potential value of monitoring tourism demand.

Discussion

Possibly the most valuable realization of this research is not a product of the individual objectives, but comes from the findings of the objectives together which show how demand can be used in tourism management. Most interestingly, tourism demand can be used to indicate the effects and severity of issues as well as impact that demand can cause to issues, but that it itself is not. The difference between these two reasons is that in one case tourism demand is a signal of issues while in the other it is a causal factor that impacts issues.

These different reasons for monitoring tourism demand can be seen in examples where, for instance, demand can indicate the severity of tourism crises on tourism flows as well as the economic benefits that tourism brings to a destination's economy and community. It can also, however, be an indicator of both the severity of issues and impacts of single issues. Measuring the degree of seasonality is an example of this. With seasonality, tourism demand can monitor the severity of push and pull factors that cause tourists to visit destinations at different times of the year or the result of off-season marketing campaigns. It can also be used as an indication of the stress on people that that uneven distributions of tourism demand throughout the year can have on the economic benefits of tourism.

An additional important difference between these two reasons for monitoring tourism demand is that when tourism demand is monitoring the severity of impacts of issues, the issue itself is tourism demand levels and is therefore a complete indicator of the issue. In contrast, when tourism demand is used to indicate issues that it can impact, it is used as a causal or partial

indicator, that to accurately represent issues, must be supplemented with additional information. At times, such as in the example of seasonal tourism demand distributions indicating the felt stresses of unequal distributions of tourism's economic impacts on people, considerable additional detail (which would likely economic and non-economic detail) is needed.

With any possible amount of data being needed to accurately monitor impacts that tourism demand can cause, a practical question can be raised as to whether destinations have the resources to accurately monitor the issues that they believe are important and whether it is cost effective to use such resources on ISDT data collection. In response to this question, this discussion proposes that the amount of supplemental data required to truly represent any issue that tourism demand indicates may not be cost-effective to collect, nor would it be an accurate representation of holistic sustainable development in tourism. After all, this study solely studies tourism demand, but there are any number of other indicators that can be impacts of the sustainable development of tourism.

As an alternative to this concern, this discussion considers the possible usefulness of a subset of indicators that monitor impacts of causal factors similar to that of the World Health Organization's (WHO) determinants of health concept (WHO, 2014). The premise of realizing and monitoring determinants of health is that many factors combined (such as: (such as: education, housing, transportation, food and agriculture) affect the health of individuals and communities, which are determined by social, economic and physical environments as well as any person's individual characteristics and behaviors (*ibid*).

The language of determinants can be adopted by tourism. Quite similar to the factors that can affect health, the principles of the sustainable development of tourism are environmental, economic, and socio-cultural aspects of tourism development as they relate to different

destination types and forms of tourism (UNWTO, 2005, p.11,12). Applying the determinants-based approach of WHO's determinants of health to the sustainable development of tourism, it can therefore be conceived that the sustainable development of tourism is determined by environmental, economic and socio-cultural factors as they apply to particular destinations and forms of tourism, which can all be affected by tourism demand. This is in line with a purpose of indicators, which is to understand the links between factors that can cause destinations' long-term sustainability to be at risk (WTO, 2004, p.9).

Much like the principle of ISDT using results-based management and the concern raised in this discussion about the ability of destinations to collect and analyze sufficient data, the principle of identifying determinants of health is based on evidence of health impact assessments, which also shares the issue that providing a comprehensive evidence base is not simple (WHO, 2012). However, well-studied health determinants include: transport food and agriculture, housing, waste, energy, industry and water (*ibid*). Different than ISDT research, health impact and determinant research has focused on few factors, which has made it possible for the WHO to establish priority determinants.

Applying this perspective to tourism, and based on the results of this study, tourism demand can be thought of a useful determinant of the sustainable development of tourism for the issues that it impacts. Of course, though, demand levels would have to appropriately suit destinations' context. With too many tourists, destination use intensity and congestion can negatively impact tourism development. Similarly, with too few tourists, the economic benefits of tourism may not meet the needs of destination economies and communities. Then it is not necessarily high or low levels of tourism demand, but appropriate levels that are ideal. Furthermore, with the ability of TDV research to model fluctuations in tourism demand and

associate TDV with issues of sustainable development, a level of consistency and predictability in tourism demand can also be considered an ideal aspect in tourism demand. Similarly, consistent levels of tourism demand can be related to seasonality, with more even distributions of tourism causing less stress. With all these aspects of tourism demand and their impacts, one determinant of the sustainable development of tourism could therefore be 'stable levels of tourism demand.'

By targeting goals such as stable levels of tourism demand that are known to determine sustainable development rather than specifically monitored indicators for individual issues, emphasis in the meaning of indicators moves from specific issues to broad goals. For ISDT such as tourism demand that are used to indicate multiple issues in numerous ways, this seems appropriate for its ability to consolidate impacts.

But in the transition from specific analyses of indicators and issues to the targeting of relatively more broad goals, an additional finding of the use of tourism demand as an ISDT should be contended: that additional detail improves indicators. As seen with tourism demand, supplementing macro-oriented data with micro-oriented data complements the use of indicators. In using tourism demand to signal economic benefits, for example, factors such as individuals' spending and whether or not they purchase locally produced tourism products also partially determine the tourists' economic impact. Therefore, in considering additional possible determinants of the sustainable development of tourism, it is likely that both macro and micro indicators should be used.

A possible concern with focusing on the utility of using determinants though, is that in bringing attention to the role and value of determinants, attention isn't on the use of ISDT as indications as evaluative tools. However, many of the WHO's determinants of health are also

indicators of health, which are used for measuring health indicators for sustainable development (such as food, jobs, water, energy and disaster risk management) (WHO, 2012). In this sense, focusing attention on the ability of indicators to be determinants doesn't necessarily take away from the ability of indicators to be evaluative measures sustainable development, but simply shifts the focus from evaluating individual issues for the sustainable development to sustainable development as a whole.

When tourism demand is used to monitor the impact that its levels or changes in levels have on issues for the sustainable development of tourism, it is used as a partial or proximal indicator. Moreover, given the number of different issues that tourism demand can be associated with (either as it is used as an ISDT or TDV suggests that it impacts) the potential utility of tourism demand indicating sustainable development is not as an absolute determinant of any particular issue, but as a one of numerous determinants that can be used to understand the entirety of sustainable development of tourism.

Conclusion

ISDT are measures of the existence and severity of issues in tourism development, signals impacts that tourism can have of the sustainable development of destinations, and are a means to identify progress in the management of sustainable development (WTO, 2004, p.8) ISDT are used by identifying issues that are relevant to the particular development issues of destinations, selecting indicators that provide tangible measures of issues, and using the information that indicators generate for results-based decision-making. Depending on the selected issues and how indicators signal them, the meaning of the information changes.

Tourism demand, being the quantitative aspect of the ‘demand side’ of tourism development, is an central component of tourism development. Despite this, the present use of tourism demand in ISDT research is elusive. It is therefore the focus of this study with the purpose of determining the potential utility of monitoring tourism demand as an ISDT.

An initial conclusion can therefore be drawn with regards to the identification and selection of ISDT. As studies have sought to identify possible indicators that relate to the sustainable development of tourism for different types of destinations, traditionally monitored indicators in tourism, namely tourism demand, are not identified as important for monitoring. This is in clear conflict with the value that destinations see in monitoring tourism demand. This leads to the observation that indicator sets should not only represent people’s opinions of sustainability, but should also reflect what are clearly valuable indicators in tourism.

This observation can be taken further with the acknowledgement of the integration and codependency among features of destinations. To view tourism demand solely as an indicator of industry-focused aspects of sustainability, as this study shows, misses the value of monitoring demand for the other issues it can indicate. In the selection of ISDT, therefore, it may be more appropriate if indicator sets consider expansions on previous tourism indicator sets by drawing on opinions of sustainability, rather than solely depending on them. This would allow past indicator research to inform the development of ISDT sets and provide a framework for monitoring programs.

Based on the purpose and corresponding objectives of this study, initially, this study explores the extent that tourism demand is presently identified as being a possible ISDT. It is found that tourism demand can be monitored in three ways: as a total number of tourists, in temporal context, where changes in tourism demand levels are monitored over time, and in

geographic context, where tourism demand levels are monitored relative to attributes of destinations. The difference between these three ways of monitoring tourism demand is that total tourist numbers provides an overall level of tourism, while monitoring tourism demand in temporal context provides a way to relate demand levels to the nature of the issue the indicate, and that monitoring tourism demand relative to destination attributes applies the context of destinations to tourism demand levels and vice versa.

In studying the issues that tourism demand can be used to indicate, five issues are identified: 1) transportation of tourists to and from as well as around destinations, 2) crises of shocks to the industry, 3) economic benefits of tourist's spending, 4) controlling tourism activities, and 5) destination planning. As tourism demand indicates different issues, it does so differently. There are three ways that tourism demand can be used: as a measure of the severity of issues, where tourism demand levels are themselves a focus of the issue, as a causal factor of issues that tourism demand impacts, but that it itself is not, as well as relatable information that can be considered in decision-making without representing a specific issue.

This study considers the further potential utility of tourism demand by comparing the measurement, implications and associated issues of TDV with the use of tourism demand as an ISDT. Here, it is found that the measurement of TDV is different from those used in monitoring tourism demand as an ISDT and that the use of a different measurement illuminates different aspects of the way that tourism demand can impact sustainability as well as have different possible applications in its use by destination management. In addition, with the suggestion that TDV research impacts different issues than those identified by the WTO (2004), it is possible that there are greater uses for monitoring tourism demand as an ISDT that what is currently identified in literature.

Comparing ISDT and TDV literature emphasizes the difference between indicators that are used as signals of the severity of, and the impact on issues. While ISDT are often thought of as signals of the severity of issues, this study shows that indicators can also be causal factors of impacts to issues. TDV research studies tourism demand for its ability to impact destinations and provides existing research on how demand can be best-monitored to manage impacts.

Considering the ability of tourism demand to indicate impacts further, this study discusses the possibility of repurposing the WHO's 'determinants of health' concept to the sustainable development of tourism. With the ability of tourism demand to impact numerous issues in tourism development, but that demand is only a partial factor among numerous other measurable factors, it is proposed that applying the concept of determinants within the framework of ISDT could be an insightful and practical way of enhancing the sustainable development of tourism.

In determining the potential utility of tourism demand as an ISDT, then, it can be concluded that tourism demand is a central component of tourism that relates to numerous issues of tourism development, despite that it is often not represented in ISDT literature. Furthermore, in considering TDV research and the concept of determinants in the ability to tourism demand to impact tourism development, it can be concluded that the potential utility of tourism demand as an ISDT has not yet been realized.

Further Research

The conclusions raised in this study lead to three suggestions for possible future research: firstly, that research should continue to be performed on tourism demand to understand its relationship with sustainable tourism development and the impact that demand, and changes in demand can have on destinations. Secondly, that tourism demand research should be more-

appropriately recognized for its dependent ties with tourism development in sustainable tourism research than it currently is. What became clear in this study is that demand is a relevant indicator to numerous issues of the sustainable development of tourism, which is something that has not yet been acknowledged in ISDT research. With the exploratory nature of this study, it is likely that despite the attempt to link insights from tourism demand research with ISDT research, many insights have been missed. Recognizing the importance of demand as a factor of the sustainability development of tourism and continuing to study its potential utility stands to further ISDT research and the sustainable development of tourism.

Thirdly, and possibly most importantly, the suggestion can be made that other possible ISDT should be studied similarly to how tourism demand is analyzed in this study or, where ISDT are causal factors known to impact issues, in the framework of a ‘determinants of sustainable tourism development’ concept, because after all, demand is only one factor to consider in the sustainable development of tourism, of which there are many. This study certainly contends other studies’ calls for gathering and analyzing quantitative indicator data (Butler, 1999), as the most obvious and useful next step for ISDT research is to collect and assess empirical data. However, quantitatively focused ISDT research does necessarily need to halt to data availability or quality issues. Drawing on other areas of research that are relatable to the sustainable development of tourism, such as this study did with TDV research, shows how previous studies can inform ISDT research without needing to manage actual indicator data sets. In cases where adequate ISDT data sets aren’t available, future research could draw on case studies, methods used in other areas of tourism research, and popular tourism concepts. Compiling and analyzing this information could provide insight to destination management and allow an extrapolated understanding of how factors affect the sustainable development of

tourism where concrete data for individual destinations is not available. Furthermore, and more important for the progression of ISDT research as a whole, this could refine current ISDT knowledge and potentially realize more intelligent methods for monitoring indicators that are more effective for destinations, provide greater value, and create a greater interest for destinations to have ISDT programs.

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Appendix A: Knowledge Mobilization Plan

To mobilize the information that has been generated in this study, a copy of this thesis will be donated to the Vancouver Public Library. The Vancouver Public Library states that “Supporting your Library makes information and resources available to the community and allows it to thrive” (VPL). The act of making information and resources available can be thought of as a basic component of knowledge mobilization. Furthermore, the donation program is designed to allow the community to thrive through the promotion of lifelong learning and the exploration of ideas (among others). This then, is not only a basic component of knowledge mobilization, but also has clear ties to Vancouver Island University’s Sustainable Leisure Management program’s community-based approaches to sustainability and the values of research, which further suggests the appropriateness of this knowledge mobilization plan.

The Vancouver Public Library accepts gifts of books and materials, among other possible donations. A copy of this thesis will be delivered to a local library branch.

Information on the Vancouver Public Library’s donation program is available at this webpage:

https://www.vpl.ca/about/details/donate_materials

Appendix B: Reflection

On August 23rd, 2013, a first draft of the proposal that resembled the ideas presented in this thesis was submitted to supervisor, Nicole Vaugeois, for review. This came after roughly one year of being a student in Vancouver Island University's Sustainable Leisure Management program, where I received exposure to issues related to sustainability in leisure and tourism, and with Nicole's guidance, considered numerous possible thesis ideas.

Considering the potential utility of tourism demand in sustainable tourism development was of a personal interest of mine, and in addition to numerous suggestions for improvement, the first indication that this idea was worth perusing came when Nicole commented that this proposal was a great advancement upon previous ideas. In September, 2013, while the proposal was undergoing a process of improvements, a second supervisor, Richard Porges, joined the thesis committee and, with Nicole, contributed suggestions for improving the proposal and ultimately, the direction and quality of whole project moving forward. With revisions having been made, what became the final draft of the proposal was submitted to, and reviewed by the thesis committee. On November 12th, 2013 permission was given to proceed with the study. Moving forward, the first portion of the results were submitted in mid-January, 2014 for an interim update and to receive a review of the progress made by that point. With helpful feedback and continued work on my part, a first (more or less complete) draft was submitted on the 1st of February. Much like previous feedback from the thesis committee, insightful comments were incorporated into the thesis and a final version was submitted for the thesis defense on March 3rd, 2014.

Upon reflecting on this process, two things became clear: that the feedback provided by the thesis committee has been incomparably insightful and useful towards improving the quality of this thesis, and also, that the majority of time and effort applied in this project was towards the development of the proposal. As this thesis conducts secondary research, taking appropriate time to understand and evaluate ideas, as well as draw on insight from the thesis committee, particularly during the proposal stage, was instrumental. In reflection then, it seems that taking time, whether to find or develop an idea, has been the essence of the project and that where my relative hindsight has fallen short, the thesis committee's insight has enriched.

