

Measuring the Socio-Economic Legacies of Mega-events: Concepts, Propositions and Indicators

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ABSTRACT

Legacies have become a key rationale underpinning the bidding process for hosting mega-events. These long-term effects are deemed to hold benefits and costs, and measurement is important. However, there is limited theory or empirical evidence on legacy impacts. In this article, the literature on legacies of mega-events is reviewed and event tourism isolated to develop an interdisciplinary conceptual model to measure tourism legacies, and develop propositions on measurement issues. This paper develops a framework of key indicators, propositions and measures to evaluate socio-economic legacies, which will support event organizers and decision makers to formulate policies for improving event legacies.

Keywords: mega-event; socio-economic legacies; tourism legacies; concept and indicators.

INTRODUCTION

Mega-events have become of interest to researchers in tourism due to the potential they offer to generate long-term economic, socio-cultural and destination image impacts (Faulkner, 1993). Indeed, tourism legacy impacts are considered to be one of the most important reasons for countries and/or cities interest in hosting a major event (Cornelissen, 2004). The recent trend towards awarding mega-events to developing nations/cities has highlighted critical political economy issues surrounding the huge economic investments required often provoking a 'bread not circus' set of arguments in favour of more conventional forms of development and modernization. Therefore, it is particularly relevant now that a systematic framework for understanding the tourism legacies of mega-events is developed that can be applied to measure the effects of these investments over the long term.

Although there is abundant literature in this area, existing research is piecemeal, aiming for broad generalization or a narrow focus on economic input-output evaluations of event impacts. Very little research focuses on the most important legacies – tourism legacies and there is much confusion surrounding concepts and issues among researchers in this area. The aim of this paper was to develop a comprehensive framework of measurement indicators that can be applied systematically to measure the socio-economic legacies of large-scale events, in particular those related to tourism. The paper focuses on a conceptual level for two reasons: first, legacies only become apparent in the long term and not enough quantitative and qualitative data is available at the moment to test the

model; and second, legacies have become an important feature in the rhetoric surrounding the staging of mega-events and form and important aspect of the case made to host events despite a lack of sound empirical evidence. There is therefore a need to develop indicators that can be tested to ensure the effectiveness of policy for the future and to address the lack of systematic research on legacies of large-scale events (Brown and Massey, 2001).

Mega-events are atypical tourism activities where the scale of investment in bid development, complexity of decision making involved and the potential impacts are so great and lasting that it is important to outline these issues as a context to develop indicators. Roche defines mega-events as: 'large scale cultural events of mass popular appeal and international importance that are typically stage-managed by a combination of national governmental and international non-governmental actors' (Roche, 2000, p. 1). Holding large-scale events implies a range of economic, social, cultural, political and environmental impacts (Faulkner 1993). The majority of studies on the impacts of mega-events concentrate on the economic impact issues (Smith, 2001; Kasimati, 2003; Hall, 2004; Richards and Wilson, 2004).

The economic impact of mega-events is measured using two main constructs: event direct expenditures such as investment in constructing stadiums and event effects such as changes in Gross Domestic Product (GDP). In the context of the Olympic Games, Li and Blake (2009) summarized five categories of Olympic-related direct investment and expenditures: operating expenditures, Olympic-related tourism expenditures, investment in Olympic-related infrastructure, investment in Olympic venues and related facilities and exports and foreign investment legacies. Event effects were evaluated at both the macroeconomic level in terms of changes in GDP, employment, economic welfare, exports and industry level in terms of changes in value of labour, capital and output in a number of studies (Kasimati, 2003; Blake, 2005; Madden, 2006; Li *et al.*, 2011). Criticism has been directed towards the reliability of the data showing large positive economic impacts generated however (Matheson, 2002).

Social impacts are also hailed as important factors underpinning a rationale for investment

in hosting mega-events (Fredline *et al.*, 2003), but as in the wider context of tourism impacts, a lack of universally agreed measures have limited research focus on measurements (Ohmann *et al.*, 2007). However, whilst a full review of the debates in this area lies beyond the scope of this paper, it is important to note that research on social impacts has been more wide ranging than economic research and has sought to understand the broader social effects of events, including: community prosperity and quality of life (Kim *et al.*, 2006); social costs, e.g. conflicts between tourists and residents (Jones, 2001); community cohesiveness and social incentives (Gursoy *et al.*, 2004); and political identity (Roche, 2000).

Recent moves by organizing committees to stress the legacy impacts focus on legacies to communities, as Hiller concludes: 'The idea of harnessing a mega-event to a broader urban agenda that moves beyond the interests of finance capital, developers, inner-city reclamation and the tourist industry is a relatively new idea' (Hiller, 2000, p. 445); and therefore the potential of the tourism-related legacies are becoming heightened. The following section defines legacies and evaluates research to date. Subsequent sections develop propositions for the development of indicators.

DEFINITION AND DIMENSIONS OF LEGACY

Preuss (2007a, 2007b) proposed that legacies can be defined as: 'Irrespective of the time of production, legacy is all planned and unplanned, positive and negative, intangible und tangible structures created for and by a sport event that remains for a longer time than the event itself' (p. 86). Barget and Gougnet (2007) identified the long-term nature of legacy value as 'the satisfaction felt as a result of handing down a sporting event to future generations' (p. 170). One way of differentiating between impacts and legacy is in terms of the economic effects between short-term 'shocks' in contrast to the economic legacy. Li and Blake (2009) argued that tourism impacts tend to consider those brought about during the short term event holding period, whereas legacies need to consider tourists who arrive at a host country before and after the event as well as the holding period to assess

total tourism impacts. Although some impact studies do mention one or two legacy issues, they often fail to identify the difference between the two concepts. The main reason could be that the concept of 'legacy' is relatively new compared with the more established concept of 'impact', and the importance of legacies in holding large-scale events have been foregrounded only in recent years. Therefore, the following definition of legacy of mega-events can be proposed:

Tangible and intangible elements of large-scale events left to future generations of a host country where these elements influence the economic, physical and psychological well-being at both community and individual levels in the long-term.

Further explanations of this definition are provided: examples of elements that influence the economic well-being include GDP, employment, tourism and economic welfare; examples of elements that influence the physical well-being include infrastructure, environment, mass sport and health; examples of elements that influence the psychological well-being include national identity, community cohesion and civic pride. This definition reveals that the concept of legacy covers a wide range of interdisciplinary issues and explains why it has been difficult to bring together into a single evaluative framework all the necessary elements to assess legacy impacts. Therefore, it is important to identify and describe the core legacies.

According to our search of the literature, research on legacies of mega-events started to gain research attention only in the last decade. In an early study, Ritchie and Smith (1991) found evidence from a five-year study on the 1988 Calgary Olympic Winter Games, which supports that holding a mega-event could bring long-term tourism benefits through image enhancement. However, they did not introduce the concept of legacy. It was only in more recent years when event committees have emphasized the importance of legacies of major events (Frey *et al.*, 2008). The International Olympic Committee recognizes the significance of legacies attributable to the Olympic Games through the inclusion of a paragraph in the Rule 2 of the Olympics Charter: 'to promote a positive legacy from the Olympic Games to the host cities

and host countries' (International Olympic Committee, 2007, p. 15). The 2002 Commonwealth Games in Manchester introduced the Legacy Programme to promote a positive legacy (Smith and Fox, 2007). The Olympic Museum and Studies Centre held an international symposium on legacy of the Olympic Games in 2002. Papers presented in this Symposium recognized the significance of legacies but found it was difficult to define the concept of legacy as it is 'multidisciplinary and dynamic – changing over time – and is affected by a variety of local and global factors' (International Olympic Committee, 2003, p. 1).

It is crucial for legacies to be built into the whole programme for hosting a sporting mega-event (Kearney, 2005). Recent large events started to realize the importance of legacies and formulate legacy plans before the event was held (Minnaert, 2012). The Department for Culture, Media and Sport has published a tourism strategy from 2008 to beyond 2012 and VisitBritain has planned a Global Marketing Campaign (2010–2013), both of which highlight the importance of immediate tourism legacies after the 2012 London Olympics. Furthermore, a series of international sporting fixtures, including the 2013 Rugby World Cup will be held in the United Kingdom, which has been identified as able to prolong the legacy impacts of the 2012 Olympics to a longer term (VisitBritain, 2009).

Since 'hard legacies' such as urban regeneration, infrastructure improvement and tourism legacies are easier to be observed and captured than 'soft legacies' such as social sustainability, the latter have received less attention. Minnaert (2012) pointed out the importance of enhancing social legacies, especially for excluded groups (or low-income groups) through skills/volunteering, employment and sports participation. Tourism legacy impacts last from pre-event to post-event (Kasimati, 2003) and can generate larger tourism receipts than normal tourism impacts. The tourism industry in the host nation can benefit from sporting facilities and general infrastructure built to accommodate a large event. Tourists attending events and conferences have been found to spend more on high-value-added goods and services such as accommodation and shopping than other types of tourists (Zeng and Luo, 2008).

Economic arguments seem to dominate, and yet there is a growing awareness that mega-events do have more human/social influences such as happiness and subjective well-being, and legacy assessments should include indicators such as levels of optimism, pride, confidence and self-esteem. These psychological benefits have been shown to have a positive effect on society. Brenke and Wagner's (2006) study on the world cup in Germany, for example, found that the economic impacts were relatively small, but there were positive effects accruing to society as a result from hosting the games. This might have an indirect effect in the long term on perceptions of tourists amongst the host population, attitudes towards hospitableness and associated social/human effects leading potentially to longer-term impacts in tourism.

Social impacts are often expressed not in terms of the effects of the mega-events on resident's perceptions of place, or civic pride, but more often in terms of local people's attitudes to tourists visiting mega-events or destinations. Mihalik argues that resident's involvement and support has become more important for communities planning to bid for Olympic venues because of the need for more public funding, and support to endorse rises in local taxation to fund the infrastructure projects that are required to host Olympic projects (Mihalik, 2000; Gursoy and Kendall, 2006, p. 617). Gursoy and Kendall's (2006) study represents a major step forward in the research to assess the social effects of mega-events, working on the principle that with community support a mega-event can be transformed into a 'festival' for the community, leading to significant urban experiences for hosts and guests alike, suggesting that locals attitudes can affect tourist experiences (after Hiller, 1990). Gauging community support is also likely to lead to a better understanding of the position of locals as a negative perspective could lead to antipathy towards event organizing authorities in the local area. Building on social exchange theory and taking a community based approach to planning which is common in tourism destination scanning research, Gursoy and Kendall's work built and tested a model of community/stakeholder engagement in a study of residents perception of and attitudes towards their support for the

staging of a mega-event in Salt Lake City, Utah during the 2002 Winter Olympic games.

A FRAMEWORK OF MEASURING THE LEGACIES OF MEGA-EVENTS

A series of research questions arise out of these discussions. There is a need to understand which types of impacts, and at what level, apply to legacy effects of mega-events. This will enable awarding authorities to establish what types of events are suitable and which legacies are most appropriate. A further question arises in the context of tourism legacies (i.e. enhanced national destination image, improved awareness and intention to visit, increased tourism infrastructure and inbound and domestic tourism figures). Are these more likely than other forms of legacy (economic and social), which makes tourism legacies one of most important legacies? Can tourism related legacies trickle down to a wide range of entrepreneurial and social sectors, regions and social groups? There is a need to understand whether indirect impacts have greater potential for legacy impacts than direct impacts. However, the first step must be to devise and propose a set of systematic and objective indicators for trial that can be applied across all regions and contexts before many of these questions can be answered.

A theoretical framework for measuring the legacies of mega-events is proposed (Figure 1). This framework consists of three main parts. The first part is the definition and dimensions of legacy, which have been discussed in the previous section. The second part consists of the measurement factors, which are developed from the first part. The two parts play different roles in the framework – the first is the conceptual foundation and the second is the conceptual extension. Legacies are divided into three categories: economic, social and compounding legacies. Considering the purpose of this research, this framework is set in the context of tourism, and thus legacies relevant to tourism are foregrounded. It is identified that economic and social legacies are most relevant to tourism. Compounding legacies refer to the legacies that do not have a close relationship to tourism but can add compounding effects either economic or social legacies. For example, to reach the environmental standard of requirements by

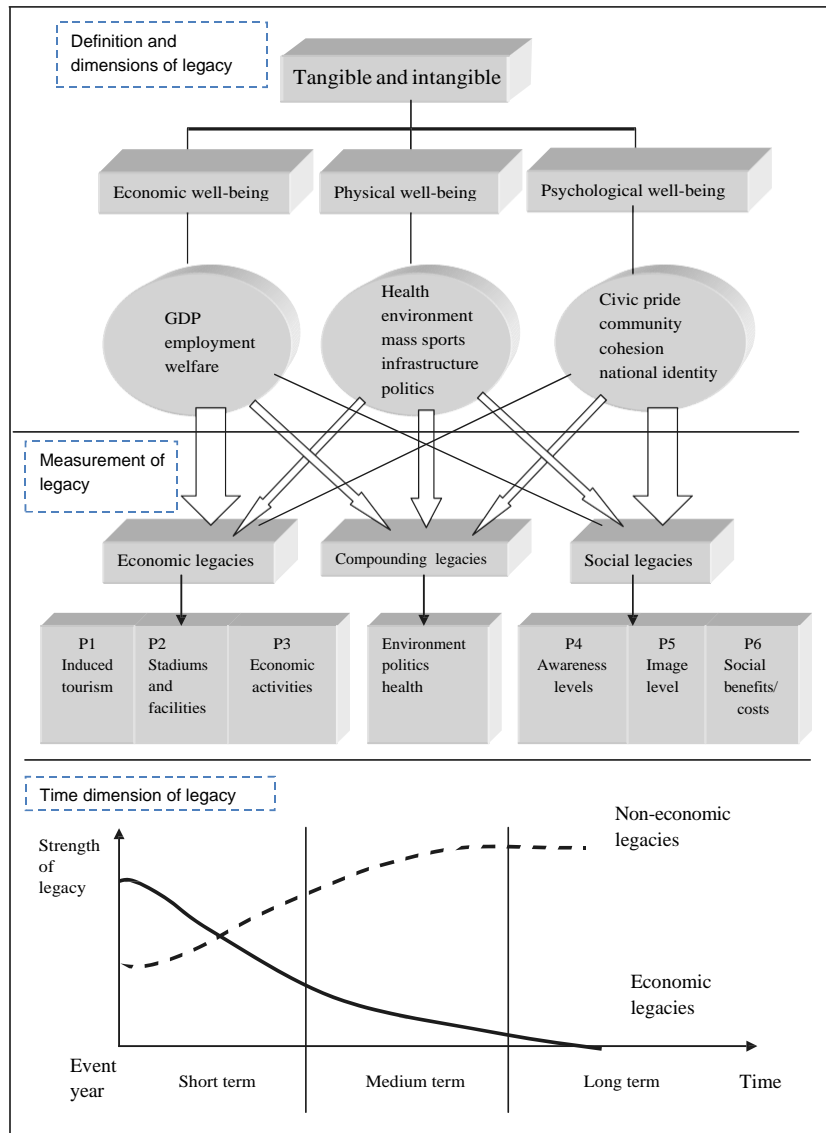


Figure 1. A framework for measuring the legacies of mega-events.

the international Olympic Committee, a host country needs to put efforts to improve air quality. If the good practice continues after the Olympics, the environmental legacy can add additional value to social legacies in terms of enhancing a good image of the host country as a tourism destination.

Different elements of legacies in the first part belong to different categories of legacies in the second part. The width of arrows indicates the number of elements belonging to different categories: the wider the arrow, the more elements belonging to that category. For example, most elements of economic well-being

belong to economic legacies and some belong to compounding legacies. The two lines linking between the elements Ovals and Social legacies box indicate interrelationships: elements in the economic Oval is the economic foundation for realizing social legacies; elements in the psychological Oval including civic pride, community cohesion and national identity, can further enhance economic legacies. In this framework, six main propositions to measure economic and social legacies are developed, which will be explained in detail in the next section.

The third part of the framework is the time dimension of legacies, which starts from the

event hosting year. It is divided into three stages: short, medium and long-term stages. The framework shows the changes of strengths of economic and non-economic legacies in the three stages. The strength of economic legacies decreases throughout the three stages and disappears in the long-term phase. In the second part, it is proposed that the three main elements: induced tourism, event stadiums and other economic activities are correlated with economic legacies. In the long term, event stadiums may have a small correlation with economic legacies, whereas the other two elements may have no correlation with economic legacies. For example, when tourists visit an event host country two decades after the event finishes, it is very difficult to identify that the main purpose of these visits is attributed to the event. The exception is that if mega-events involve high capacity infrastructure development that is financed by local taxpayers' money and thus incurs long-term debt. In this case, event infrastructure may have a large correlation with economic legacies. Non-economic legacies, on the contrary, are increasing throughout the three stages, and they may reach a steady state at some point in the long-term stage. Take one of the three propositions of social legacies for example, the image level of an event host destination may increase with the support of media exposure before and during the event. If tourists who visited the host country during the event had a good experience, they would recommend this destination to others through word-of-mouth and thus the image level would continue to increase in the legacy stage. When the image of the host country becomes an established part of the destination brand, it reaches a stable level.

Measurement of economic legacies

Proposition 1. Induced tourism and economic legacies of holding a large event are indirectly and positively correlated.

According to Li and Blake (2009), induced tourism legacies include tourists who do not watch an event in the stadiums but their main purpose of visits are relevant to the event. In other words, those tourists would not have visited the host city/country if the event had not been hosted there. Holding a large event

does not generate economic legacies of tourism automatically. These legacies are generated through extensive media exposure that helps to enhance the image of a host country. By holding an event, tourism facilities and infrastructure are improved, which further encourage tourism legacies (Spurr, 1999). One of the most successful Olympics that achieved long-term tourism legacies were the 1992 Barcelona Olympics (Cashman, 2006). The majority of studies assessing the total economic impact of a large event have captured the economic impact of tourism as an important contribution to the total impact. Induced tourism legacies can further bring economic growth and generate the issue of income distribution. We identify two main measures to apply to Proposition 1.

Measure 1: Induced tourist numbers, revenues and tourism industry. To assess the tourist numbers related to tourism legacies is not straightforward as visit motivation and purposes of tourists may be multiple, such as visiting friends and relatives, businesses, sporting, leisure and shopping. It is difficult to identify whether visits are mainly due to a new image enhanced by holding a large event. The assessment of the tourist numbers in existing studies is based on primary data, such as surveys and questionnaires or secondary data, such as previous research and published statistics by the government. Tourism revenue is a more important economic indicator than tourist numbers in terms of measuring the economic legacies of a large event. Inbound tourism revenue is a key component of the total exports and contributes to foreign exchange reserves. The challenge is the assessment of tourism expenditure per tourist, specifically, how to capture the proportion of expenditure that is relevant and attributable to the legacy of holding an event. Tourism industry refers to any industries that are directly involved in supplying tourism products and services, such as hotel, restaurant, passenger transport, tour operators and theme parks. These tourism industries can benefit from any tourism booms after an event finishes, in terms of increases in employment, capital uses, and sales revenues. Previous studies show that while tourism industries experience a boom by holding an event, other industries suffer from a loss (Li *et al.*, 2011).

Measure 2: Economic growth and income distribution. When induced tourism expenditure is injected into the host economy, it can flow to other industries through the supply chain. For example, if a tourist spends US\$30 on a hotel room, this new money is injected into this hotel, and then to its suppliers, such as electricity, water and furniture companies. In previous studies, economic growth brought by holding an event is measured by GDP, such as in New South Wales Treasury (1997) and Madden (2006), and by economic welfare, such as in Blake (2005) and Li *et al.* (2011), Changes in Economic welfare are equivalent to changes in real GDP (Blake, 2000).

Holding large events increases employment in tourism related industries, which are labour-intensive, such as hotels and restaurants. Employees in these labour intensive industries are largely from low-income residents and people from rural locations. However, these jobs may be temporary and may disappear after an event finishes. It is necessary to calculate the number of jobs taken by low-income residents and determine whether these jobs are created due to holding a large event and also whether they last beyond the event. In addition, holding a mega-event may bring economic growth to a host country but the benefits may not be fairly distributed between the rich and the poor. The poor may suffer through higher taxes, less housing provision and reduced other social services from the government (Pillay and Bass, 2008). In order to capture the distribution of the impacts of economic legacies of holding a large event, changes in GDP or economic welfare due to the event for each income group need to be evaluated.

Proposition 2. Event stadiums and related facilities and economic legacies of holding a large event are directly and positively/negatively correlated.

Event stadiums and other event related facilities such as press and broadcasting centres, and the media village can bring tangible and direct legacies after an event finishes. On one hand, this investment will be wasted if the facilities are not efficiently used after an event and/or the costs of these facilities are high, which shows a negative relationship between event stadiums and

related facilities and economic legacies of holding a large event. On the other hand, the stadiums can generate positive economic legacies if these event facilities can be effectively used for other purposes, such as holding other events, conferences and exhibitions that become part of the competitive tourism product of the host nation.

Measure 1: Costs of event stadiums and related facilities potentially generate negative economic legacies. As we only consider costs that affect legacies, opportunity costs, conversion and maintenance costs are included whereas investment in building these facilities are not. Building event stadiums are normally funded by the government, and this investment can crowd out other uses of public funding, such as health care, education and support for small private firms. These are considered as opportunity costs of event stadiums and related facilities (French and Disher, 1997). To be able to use these event facilities after an event, a host country needs to convert the functions of these facilities, for example, converting the Olympic village to student's accommodations and sporting stadiums to host concerts. Conversion costs and maintenance fees can be very high. According to officials from the London Development Agency, the conversion of London Olympic Park stadiums will cost more than US\$370 million (Beard, 2009).

Measure 2: Benefits of event stadiums and related facilities potentially generate positive economic legacies. Benefits here mainly include revenues from the use of event stadiums and related facilities after an event finishes. These event facilities can be used to hold other cultural, sporting and commercial events, or converted for other uses. However, judging by previous examples, most event stadiums remain idle or not effectively used after an event (Jones, 2002), which reduces positive economic legacies. Countries hosting recent large events have focused on the legacy plans for the use of event stadiums in the bidding stages.

Proposition 3. Economic activities and economic legacies of holding a large event are indirectly and positively/negatively correlated.

The indirect relationships between economic activities and economic legacies of a large event

have not been well explored in literature. These economic activities can include foreign direct investment, international trade and other businesses. It was predicted that holding the 2000 Sydney Olympics would slightly increase foreign demand for Australian manufactured goods (New South Wales Treasury, 1997). Holding a large event may bring additional trade and business development (Dwyer *et al.*, 2000). A successfully held event demonstrates the capabilities of a host country in organizing large events, managing venues, creating a friendly and safe environment and formulating supportive and effective policies. This can build confidence in investment and encourage foreign companies to trade with the host country. Furthermore, management skills, new technologies and innovation accumulated from holding a large event can benefit local businesses. On the contrary, not-well organized events may deteriorate the image of a host country and reduce foreign investment and trade.

Measure: Extra economic activities are generated by holding a large event. The relationship between economic activities and economic legacies can be intangible and thus difficult to capture. It is similar to the challenge in measuring the economic legacies of tourism – it is difficult to separate the economic activities that happen due to holding an event from the total economic activities. Little research measuring this type of legacies has been found. This paper suggests that micro-level data, such as increased foreign direct investment and exports collected from tourism-related companies in the post-event period, are more useful in measuring legacies of extra economic activities.

Measurement of social legacies

According to EventIMPACTS, a consortium project set up in the UK between the regional development agencies, Sport UK and Visit Britain, social impacts, although difficult to measure, can be assessed by both quantitative and qualitative means. Social impacts are observed in five key areas, including: tourist satisfaction with the event itself; place, identity and image effects (measured by, tourist Perception [general], Local Resident Perception [general], Civic Pride, Local Valuation of an Event); participation, (measured through

intentions to participate in a range of activities); volunteering and skills impacts and children and young people's measures. These latter are specifically important in relation to the assessment of legacy impacts from mega-events, but are targeted more towards the legacies accrued to the host population. In UK, these measures coalesce around the five core indicators for assessment of children's services (the Every Child Matters outcomes framework: Be healthy, Stay safe, Enjoy and achieve, Make a positive contribution, Achieve economic well being). However, in this paper, the focus is on social legacies and their possible influence on tourism to the host nation/city. The measures proposed by the EventIMPACTS paper particularly in relation to image and perception aspects fail to take account of key marketing approaches that have been well utilized in the tourism literature over many years and cases. The following propositions elaborate these issues.

Proposition 4. Awareness levels of the host nation/city as a tourist destination and social legacies are positively correlated.

Media exposure brought about by the staging of a mega-event is critical to promote a host country as a tourism destination (Nauright, 2004). We have previously noted that host countries have aimed to capitalize on the global media exposure through specific tourism marketing campaigns. In this proposition, however, the focus is on increased awareness that can lead to a legacy effect over the long term in contribution to tourist numbers and their expenditures. Most studies on media coverage take a marketing perspective, but few propose or utilize standard marketing evaluation techniques (Smith, 2006) preferring instead to focus on tourist/host perceptions. However, there are standard techniques that could be applied. Hudson *et al.* (2001) propose a hypothetical model of tourist decision making as a result of media exposure resulting from a mega-event but recognize the difficulty in proving cause and effect between media coverage and induced demand. This proposition does not seek to make a similar claim but recognizes that media coverage will lead to increase in destination awareness as independent of tourism demand.

Measure 1: In key source tourism markets, destination awareness/brand tracking studies should be undertaken to assess levels of awareness of the host city by using unaided recall techniques prior to and longitudinally throughout the bidding and hosting process (Echtner and Ritchie, 1993) to assess changes over time.

Measure 2: Undertake media monitoring to assess the advertising value equivalency of media coverage. Although this is a contested area of research, the value of Public Relations activity as an integral component of Integrated Marketing Communications has become a key area of activity in practice (Likely *et al.*, 2006). This is an important determinant of legacy impacts because destination awareness is a precursor to intention and decision making, and also because Public Relations activity is more likely to be a focal activity by the host nation/city prior to any destination marketing campaigns. However, it is important to note that negative media coverage could adversely affect the destination image including conflicts between tourists and residents (Jones, 2001), human rights and the rule of the law (Greene, 2003). Additional measures of 'qualified volume' would take account of the tonality, prominence, accuracy and reach of the media coverage (Jeffrey *et al.*, 2006) and media can be managed with due care (Getz and Fairley, 2003).

Proposition 5. Destination image level changes are positively/negatively correlated with social legacies.

Numerous authors agree on the important perceived role of events in changing or enhancing the destination image of the host country (Chalip *et al.*, 2003; Greene, 2003; Lee *et al.*, 2005; Gursoy and Kendall, 2006). Richards and Wilson (2004) assessed the effects of cultural events on city image. Gursoy *et al.* (2004) identified that tourism can contribute to strengthening cultural identity and pride that can have indirect and longer term legacy impacts on destination image. Differently, to media coverage and destination awareness discussed in proposition 5, destination image studies can track changes in image and intentions over time.

Measure 1: Standard measures on destination image include an assessment of measured

attributes (see Gallarza *et al.*, 2002 for a review of measures) and an evaluation of changes in destination image over the long term could offer insights in any legacy effects accruing from mega-events.

Measure 2: Standard measures of marketing campaign effectiveness and Return on Investment can be applied to measure the success of specific destination marketing campaigns launched to coincide with the hosting of a mega-event. Most studies undertake either an advertising tracking approach or the conversion method and although these have both been criticized, they remain as key measures to assess the influence of specific campaigns on tourist behaviours (McWilliams and Crompton, 1997; Smith, 2006; Pratt *et al.*, 2010).

Proposition 6. Social benefits/costs of mega-events to tourism are positively/negatively indirectly correlated with social legacies.

Kim, Gursoy and Lee compared the pre-world and post-world football cup impacts on South Korea. They found that overall, the 2002 World Cup appeared to generate more societal and cultural benefits (i.e. cultural exchange between tourists and residents, finding the cultural identity of local communities, understanding of other societies, preservation and development of the local culture and natural resources and restoration of historical buildings) than economic gains for South Koreans. This is related to the concept of social exchange and distributive justice. 'Social exchange theory suggests that local residents are likely to form their perceptions based on the expected value of the exchange before the actual exchange occurs'. (Kim *et al.*, 2006, p. 87). Local residents are likely to form their own images about their city and country and its place in the world, developing mechanisms to understand objects and events around them (Fredline and Faulkner, 2002). These types of perceptions and attitudes can improve cohesiveness within the host society, affect interactions with tourists during and after the event and, therefore, have an indirect effect on future competitiveness and growth of the city as a destination for tourism. Alternatively, since many sociological studies have pointed to the potential negative costs to local societies from staging mega-events where social class divisions

are exposed and exacerbated and where the political elite and middle classes benefit at the expense of distributive justice (Fredline *et al.*, 2003), the long-term consequences are likely to have a negative effect on locals attitudes and, therefore, on tourist destination image and behaviour.

Measure 1: The strength of feeling. Many studies have used attitudes surveys to assess the strength of feeling amongst the host population in terms of reaction to tourism (see, for example, Besculides *et al.*, 2002). Some, such as Ritchie and Smith (1991) have tracked changes in attitudes over time and found that residents persistently supported an event because of the perceived long-term benefits to the community. Many studies have shown that where there is a direct relationship to the tourism industry through employment or associated sectors, that social exchange models are validated (e.g. Deccio and Baloglu 2002), whereas social attitudes studies appear less persuasive in dealing with community cohesion.

Measure 2: Community cohesion. Gursoy *et al.*, (2004) extend this type of research to include both social benefits and costs alongside community cohesion questions in the context of festivals and events. In order to assess whether changes in social attitudes occur amongst the local, it is useful to consider key measures of community cohesion (Cantle, 2001, Denham, 2001, and the DCLG, 2007 report). These specifically measure the extent that people get on with and form meaningful relationships with people from different backgrounds to themselves as well as their participation in civic organizations and local activities. Tracking any increases in social capital (for community cohesion measures are linked to the concept of social capital) through changes in percentage increases in new relationships across social and ethnic divides would be a useful indicator of likely attitudes towards tourists. Taken together with any changes in levels of perceived differences amongst tourists in levels of hospitality as an attribute of destination image in proposition 6, indirect links can be established between community cohesion and long-term changes in tourist demand.

Compounding legacies

Social and economic legacies are the main types of legacies to impact on tourism to host destinations for mega-events and have received the most attention by event organizers and policy makers within regions. There are other types of legacies, also important for host cities and countries, and whilst these are outside the parameters of the current study where the focus is on the most relevant issues to tourism, these issues do warrant consideration. In this research, these legacies are classified as compounding legacies.

The International Olympic Committee has recognized the significance of environmental aspects and included these in the three important dimensions of impacts/legacies of the Olympics together with economic and social aspects. Sustainability and environmental legacies of mega-events are positively/negatively correlated. Mega-events can bring both positive and negative environmental externalities to host countries, which can affect tourists' experiences. Positive components include, for example, increased environmental awareness and environmental protection policies, whereas negative components mainly coalesce around issues such as carbon emissions. Measures of environmental legacies may include these positive and negative externalities. Collins *et al.*, (2009) discussed two quantitative techniques, Ecological Footprint Analysis and Environmental Input-output Analysis, which can be applied to assessing the environmental impacts of mega-events. Host countries need to formulate plans regarding developing a long-lasting environmental legacy for both tourists and residents. The Green Goal Progress Report revealed that the 2010 South Africa Football World Cup designed a Green Goal Action Plan, which is made up of nine target areas such as energy and climate change, water conservation, landscaping and biodiversity and responsible tourism (City of Cape Town, 2009). In this report, responsible tourism involves three projects: developing a code of responsible conduct of tourists, presenting responsible tourism awareness and designing environmental accreditation system for accommodation sector.

Political legacies seem to gain more attention in the context of developing host countries than developed countries. The reason is that political

status of developing countries can be positively or negatively correlated to political legacies. Successfully, holding a mega-event can improve the political status of developing countries, and media exposure can also enhance the political image of host countries (Xu, 2006). There is a potential relationship between the destination image of host countries and their political image. Developing host countries may consider holding a mega-event as an opportunity to build international prestige and demonstrate national strength with a goal to enhance integration and stability (Ong, 2004). Other compounding legacies, such as health, educational and cultural legacies can also have compounding effects with social legacies in terms of improving destination images.

The focus of this paper is to provide propositions and indicators for measuring legacies of events, and thus specific techniques of measurement will leave for further research agenda and can be developed on the basis of this paper. Possible techniques will be briefly discussed, which can shed some lights on the operationalization of the measurement for future research.

Cost-Benefit Analysis (CBA) can capture net benefits through assessing and quantifying all benefits and costs relevant to holding a sport event. Although computable general equilibrium (CGE) modelling can measure economic welfare of an event on an economy (Blake, 2005; Li *et al.*, 2011), CBA can capture wider range of welfare effects such as social, environmental and political welfare in a community (Dwyer and Forsyth, 2009). It is argued that as CBA can show net benefits of holding an event, it is a better tool for providing policy implication when justifying public support and subsidies (Késenne, 2005). Few researches have conducted CBA in the field of event evaluation due to lack of data. Dwyer *et al.*, (2010) explained the application of CBA to events analysis through presenting three cases including a V8 car race event (ACT Auditor General, 2002), the 2010 Vancouver Olympics (Shaffer *et al.*, 2003) and Eurovision Song Contest (Fleischer and Felsenstein, 2002). The advantage of CGE modelling is to capture wide economic impacts of holding an event. CBA has strengths of estimating the value, efficiency and opportunity cost of increased expenditure brought by holding an event (Shaffer *et al.*, 2003) and capturing

non-economic effects. Therefore, it may be a good solution to integrate both CGE and CBA in comprehensively evaluating legacy effects of an event (Dwyer and Forsyth, 2009).

An integration of CGE and CBA methods is proposed. Two accounts – economic and social legacy – can be built. Economic legacy account measures Propositions 1–3 and data can be collected through survey and interview on tourists, tourism-related industries, such as hotels and restaurants, government and event stadiums. Data need to be collected for 5 to 10 years after the event finishes to accumulate sufficient information for measuring legacies. Using the data, dynamic CGE modelling can be employed to capture economic welfare – how much people are better off or worse off generated by event legacies effects. However, CGE modelling may not be able to include some costs, such as stadium maintenance costs. CBA approach is also applied to capture further costs of economic legacies. Regarding social legacy account, it is more difficult to quantify than economic legacy account. A survey method can be applied to link proposition 4 awareness level and 5 destination level with proposition 1 induced tourism. For example, using tourist survey can identify how much an increase in awareness, and destination level can contribute to an increase in induced tourism expenditure. Proposition 6 can be evaluated by resident ‘consumer surpluses’, which is a key component of CBA.

CONCLUSIONS

Legacies of mega-events have become a powerful force in the debates surrounding the bidding and awarding of mega-events. This paper has discovered that research on legacies of mega-events is nascent and incomplete, although issues of impacts of events have been well documented. Legacies were found to differ from impacts in that legacies refer to long-term effects, whereas impacts refer to a short period surrounding an event. We argued that holding mega-events generates a variety of types of impacts such as economic, social, environmental, cultural and political impacts and among which, economic and social impacts are probably the most analysed by researchers and most emphasized by event organizers. Tourism legacies were often conflated with other types

of social impacts. The paper designed a set of propositions and measures to assess legacies of mega-events with an emphasis on tourism issues.

We identified and elaborated the conceptual aspects surrounding key measures to evaluate a set of six core indicators. Some of the indicators, such as the costs and benefits of event stadiums and economic growth, are tangible; whereas others, such as awareness and image level of host countries, are intangible and so relatively harder to quantify. In the key indicators of economic legacies, the costs and benefits of event stadiums and related facilities is directly correlated with economic legacies while tourism, economic activities and economic growth are indirectly correlated with economic legacies. Economic growth can be used as an indicator to capture overall legacies. Proposition 2 reveals the relationship between tourism and economic legacies. In addition, spending of tourism legacies is the main contribution to economic growth.

Key indicators for evaluating social legacies include awareness levels of the host nation/city, destination image level changes, social benefits and social costs. Resident attitudes, strength of community cohesion and feelings towards their own society and others are key indicators for assessing how communities might react to tourists, indirectly affecting tourism demand in the long term. Economic and social legacies do not exist independently, but are often interrelated. For example, media exposure during holding a mega-event can enhance destination image of the host country, which can generate social legacies that in turn affect tourism demand. At the meantime, the improvement of image can attract more tourists and bring more tourism expenditure in the post-event period, which is seen as economic legacies. In addition to economic and social legacies, there are other legacies: environmental, cultural and political legacies, for example, which also play an important part in the total legacy structures of mega-events, and which could potentially adversely or positively affect tourism in the long term, but these are felt to be weaker determinants of tourism impact.

Event organizers and committees have recognized the significance of legacies in terms of their potential role in prolonging and enhancing the positive impacts of events through setting legacy goals. However, it is apparent

that these programmes are isolated from each other probably due to lack of a systematic framework for measuring event legacies. This paper takes the first step towards such a framework that can support event organizers to formulate policies for improving tourism-related event legacies. A host country may not be able to include all the indicators of tourism legacies in its event plan, and different host countries may target different legacy goals. This paper aims to contribute to the debate through the creation of a framework of indicators that can be employed at the practical level, and we propose existing and tried measures. The methodological choices and practical issues of implementation need to be the focus of further research, and this paper calls for a detailed examination of approaches and case studies.

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