Economics incentives to adopt sustainable practices in the tourism industry in Mexico.[1]

Antonio Lloret[*2], Rogelio Domenge[*], Isabel Saz[§], Luís Carus[§], Marisol Rivera[†] y Carlos Muñoz[†]

[*]Instituto Tecnológico Autónomo de Mexico

[§] Universidad de Zaragoza, España

[†] Instituto Nacional de Ecología, Mexico

Abstract

Companies that want to stay competitive in the future must integrate sustainability practices into their business strategies. Competitiveness and sustainability are keys to the survival of the company, and thus companies must view the call to sustainability as a strategic opportunity rather than as a restriction to creating value. The proper link between sustainability and competitiveness is one in which the efficient use of natural resources, as well as economic and social resources, lets the companies adapt to the changing preferences of individuals by providing them with sustainable products, goods, and services. The aim of this study is to demonstrate that sustainability may generate economic benefits for companies that are willing to implement actions beyond what is required by law. We discuss the business strategies that meet sustainable behavior and, using empirical data from the tourism industry in Mexican beach destinations, we show with a hedonic price method approach how sustainability attributes of tourism destinations affects hotel prices. We use geographic information systems to report our empirical results and discuss our main findings in the field in three beach destinations in Mexico.

Keywords: Competitiveness, Sustainability, Corporate Social Responsibility, Tourism, Hospitality Industry, Hedonic Prices, Geographic Information Systems.

Introduction

[1] We are thankful for the financial support from Ministerio de Estado de Cooperación Internacional from the Spanish Government and from Asociación Mexicana de Cultura. All errors remain our own.
[2] Corresponding autor. address Río Hondo 1, Tizapán San Ángel 01080 Mexico D.F.
antonio.lloret@itam.mx

It is now common to speak about business sustainability not only in reference to environmental practices such as energy conservation or climate change, but also in relation to business ethics or business practices against corruption, among others. The debate over business sustainability tends to fall into two camps: the "pro-responsibility" view and the "pro-business" view. Proponents of the pro-responsibility view argue that companies must be responsible for taking action and addressing their environmental and societal impacts, even perhaps at the expense of the profitability and value of the firm. While the argument for social responsibility is important, it can, however, minimize the need for the generation of corporate profits and, ultimately, the organization's financial survival. Such a romanticization of sustainable practices in a context isolated from business realities creates a utopic vision that has no place in the business world. On the other hand, firms face a pro-business vision in their day-to-day realities in which they strive to generate profits, attract investments, get clients, sell, and operate. Such a focus can lock companies into a utilitarian cycle in which shortsighted decisions may generate very high social costs and, eventually, even cost the company its survival.

Both the pro-responsibility and the pro-business views are extreme positions that deny certain realities. This paper argues for the need for a balanced effort: social responsibility for companies that does not generate profits is a project condemned to failure, and profitability at the expense of social responsibility can condemn us all. To move beyond this impasse, we must reframe the debate, building business strategies around sustainability and competitiveness, not social responsibility and profitability.

Sustainability and competitivity can be framed as part of a business strategy when sustainability is used to create competitive or comparative advantages that results from differentiating goods and services, reducing costs by reducing waste, pollution or potential costs accrued form regulatory fines and by focusing on market segments that are willing to buy the product and pay the price of a sustainable good or service.

This paper aims to link competitiveness and sustainability, arguing that together these concepts allow companies to pursue the interests of society at the same time that it allows companies to pursue benefits. To

understand these ideas, consider first that the generation of firm value is reflected in financial returns. For this, the strategic variables that have the company are three: perceived benefits, average costs, and focus strategies (Porter 1985). The perceived benefits are those that consumers get when purchasing goods or services produced by the company, and these perceived benefits can be strategically exploited by differentiating goods and services. Thus a company that has a higher perceived benefit in relation to the perceived benefits of the competition is likely to have higher sales. The second strategic variable under this framework is the average cost of operation. Firms can exploit this variable by generating strategic actions that reduce costs. By comparing the average cost with the price set by the market, the firm obtains a margin. With homogeneous goods and a price given by the market, a company is more competitive than another if it has higher margins than its competitor because of lower average costs. Here of course, the company with lower costs can lower the price so that consumers perceive a greater benefit. If this is done over time, a company may sustain over time its ability to generate profits. The last generic strategy, the focus strategy, aims to exploit either benefit advantage or cost advantage in a particular market.

To understand properly the relationship between competitiveness and sustainability, consider that sustainability refers to the use and exploitation of strategic resources based on tangible and intangible assets that enable the survival of a firm over time (Barney 1991). The concept of sustainability is not restricted to the permanence of natural resources but also includes the proper use of human, capital, and financial resources, among others to reduce waste, design business strategies and have a long term approach to business (Hart 1995). Under this view, corporate sustainability goes hand in hand with the creation and implementation of strategic actions that seek the equilibrium between economic, social, and environmental aspects of the firm over time.

Considering sustainability as unconnected to a firm's competitiveness, however, can generate a perception of high costs and high investment. Such a perception is true to a certain extent over the short term, when sustainability practices are not aligned with business strategy. Incorporating sustainability practices into a business strategy, however, can be a differentiator over the medium to long term that allows a firm to be competitive and sustainable. A sustainable business vision enables the company not only to look toward the

future, but also establish the basis and guidelines needed for business continuance in the future. The sustainable view requires long-term and efficient use of resources and capabilities over time and the reassurance to consumers that their benefits may be greater than the products and services with less sustainable attributes.

In this paper, we aim to show the economic incentives implicit in sustainable practices. We show that businesses that depend on environmental and societal features may benefit from sustainable practices when that sustainability is reflected in their daily operations. We argue that there is a positive relation between societal and environmental attributes of goods and services of companies that, if correctly communicated to consumers, may translate in higher prices and benefits for the firm. When companies incorporate the notion of sustainability into their practices, working to improve their environmental and social impacts, the companies achieve greater financial benefits. We use a hedonic prices approach to show how environmental and societal features determine price and use empirical data from the tourism industry in Mexico to show the extent to which sustainability determines accommodation prices, occupancy rates, and company benefits. We discuss the results of our field research. We conducted several interviews in three major beach destinations where we interviewed hotel employees, directors, regulators, and community members to gain a first-hand view of how the sustainable practices affects hotels rentability. We then conclude with a discussion of how the new age of regulation may affect or benefit sustainable practices and with recommendations and suggestions for further research.

Sustainability as a competitive driver

Competitiveness is closely related to financial performance. A conventional concept of competitiveness from the field of business strategy is one in which a firm becomes "competitive" when its financial returns over time are above the average returns for its industry. "Sustainability" is a term the business community often uses the term to characterize a firm that is able to achieve such long term returns, whereas environmental sustainability deals with the proper and efficient use of natural resources over time. We are interested in the second connotation while aware that firms need to have a long-term strategy to operate.

The linkage between competitiveness and sustainability from the environmental perspective is embodied in the literature on financial and environmental performance (King and Lenox 2001; Orlitzky, Schmidt et al. 2003; Clarkson, Li et al. 2007). The results suggest that a firm that works actively to preserve the environment also achieves positive financial performance over time. An explanation may help elucidate the issue. Generally speaking, businesses pursue two generic strategies in order to obtain competitive advantage: benefit advantage and cost advantage (Porter and van der Linde 1995). The former implies that a firm can achieve above average returns when it makes and sells more due to enhanced product benefits (differentiation) or because it can raise the product price due to higher perceived benefits. The latter, cost advantage implies that the firm has lower average costs than its competitors owing to a more efficient use of resources. In particular, Porter and van der Linde suggest that since pollution is a form of resource waste, a reduction in pollution should result in higher productivity.

Other approaches to competitiveness and sustainability address the issue by strategically exploiting resources and capacities, or tangible and intangible assets that allow the firm to achieve a competitive advantage. This is usually embedded in the resource-based notion of the firm, which proposes the use and exploitation of strategic assets, resources, and capabilities, based on tangible and intangible assets that allow to the firm to remain over time (Barney 1991; Russo and Fouts 1997). This hypothesis suggests that the resources and capabilities of a company create value when these are valuable, rare, inimitable and adaptable to the organization in a purely business context or with an extension to natural resources (Hart 1995) Moreover, business sustainability goes hand in hand with the creation and implementation of strategic actions that meet economic, social and environmental constraints overtime. Thus, business sustainability can be instrumental in developing resources (assets) that create value for the firm. In practice, business sustainable strategic actions may help achieve competitive advantage through cost or benefit advantages. Other perspectives such as stakeholders' management requires companies to act responsibly towards consumers, investors, and governments, as well as to manage benefits to motivate, attract, and retain valuable employees that create value for the company (Ogliastri 2003). An aligned business and sustainable strategy reflects the nature and extent of the opportunities associated with sustainable development as it relates to the creation of value for the firm (Gardetti 2004).

A company can use sustainable business strategies to increase profitability while maintaining regional benefits, for example, by working on the strength of their resources and capabilities. This is possible if the firm internalizes the social and environmental costs of its operation and in doing so improves the perceived benefits for consumers. Investment in infrastructure and production of goods and services that have sustainable attributes increase as well the perceived benefits of consumers who in turn reveal their preferences of such goods and services.

Nonetheless, the vision of sustainability in isolation from the sight of profitability in the company generates a perception of high costs and high investment. The problem seems to be that the implementation of a sustainability strategy could generate higher costs than the costs of operating without a sense of sustainability, thus affecting the generation of value. However, a sustainable business vision enables the company to look towards the future, and to establish the basis and guidelines needed for business continuance in the future. It is clear now that individuals' preferences for sustainable products are on the rise, suggesting a higher demand for goods and services with sustainable attributes which in turn may translate into higher prices and sales. Competitiveness and sustainability are intertwined concepts that if properly communicated may bring benefits to both, environment and society and the companies involved. In the next section we discuss our approach using the tourism industry, in particular the hotel industry as a case study.

The tourism industry

The tourism industry represents one of the most relevant economic activities worldwide as measured in both: its growth rates in exports of goods and services and the number of people it employees. The industry has been strategic to leverage development and combat poverty given its potential for income generation and yet tourism growth may also become a catalclyst for environmental degradation and resource depletion. At the same time, the World Travel & Tourism Council in one of its latest reports on business sustainability in the tourism sector, highlights the key role that tourism can play in helping solve some of the current

global challenges with regard to the conservation of natural and social resources and its importance as a driver of progress towards a more equitable society (WTO 2009).

It is in the economic potential of tourism where a stimulus for progress exists. According to figures from the World Tourism Organization, international tourism receipts worldwide reached 625,000 million US in 2007. A nominal increase of 6% over the previous period and the flow of tourists during 2008 were 924 million and is expected that by 2020, this figure will meet 1.6 billion. (WTO 2009)

The World Travel & Tourism Council has found that tourism makes a notable impact in 160 economies worldwide. First, it is one of the most dynamic industries and the main source of global growth and prosperity worldwide. Tourism now accounts for more than 10% of world GDP, representing more than 200 million jobs, directly and indirectly, and has a projected growth rate of 4.5% annually over the next ten years. Second, it contributes to improving living standards and reducing poverty in developing areas. Third, it has the ability to catalyze new initiatives and economic incentives to protect and preserve fragile ecosystems, flora and endangered fauna and cultural heritage and indigenous heritage. Fourth, tourism can facilitate better relationships and understanding between different peoples and cultures (Exceltur 2003).

The World Tourism Organization's guidelines for sustainability suggest that tourism should aim both to meet the needs of present tourists and destination regions and to protect and improve the same opportunities for future tourists. The tourism industry plays a key role in promoting sustainable development in its broadest sense (WTO 2009). Thus tourism businesses have a responsibility to maintain and preserve their sources of income in a sustainable way, but this can only happen if the industry finds a way to be competitive and sustainable at the same time.

We have argued that sustainability requires a long-term view and efficient use of resources and capabilities over time. If a tourism company wants to ensure or enhance its perceived benefits, it should then work with the resources available and the preferences of individuals. In this sense, business sustainability of tourism businesses can play a dominant role in the economic, social and environmental aspects of a region.

In this paper we propose business strategy practices as a model for improving the sustainability of tourist destination areas, whose success is framed by the concept of sustainable development. We link generic business strategies to tourism hotels to show that business strategies may be aligned to create sustainable tourism. Given that the interest of this paper is to highlight the differentiation strategy as means to sustain, to preserve, and to maintain the environment and the social attributes of a tourist destination, in the next section we use a hedonic price method to show how businesses in the tourism sector can benefit from preserving the environment and pursuing sustainable practices.

Research Methods

Given the importance of the tourism industry in Mexico, we decided to use data on Mexican tourism destinations to support our claim. We used a hedonic price method to show how prices are increasing in sustainable attributes. The hedonic price method was first developed by Rosen in 1974, and it aims to show that any differentiated product can be seen as a bundle of attributes. The value that consumers attach to the attributes will be reflected in the price of the differentiated product. If the product class contains enough products with different combinations of attributes, it should be possible to estimate an implicit price relationship that gives the price of product, in our case a hotel rates, as a function of the quantities of its various characteristics (Rosen 1974).

This method estimates the implicit price of the attributes that differentiate closely related products in a product class. The price of an individual characteristic is called the implicit or shadow price. The method has been used extensively for real estate valuation and in particular for valuing willingness to pay for environmental amenities. It has been used to examine the impact of climate change on the price of housing (Rehdanz 2006; Rehdanz and Maddison 2008). In tourism research, it has been applied to package tours (Clewer, Pack et al. 1992) and rural tourism accommodation (Fleischer and Tchetchik 2005) and to measure accommodation prices and coastal landscapes in Germany (Hamilton 2006).

More formally, as discussed in (Freeman III 2003), let Y represent a product class. Any model of Y can be completely described by a vector of its characteristics. Let $Q = q_1,...,q_j,...,q_n$ represent the vector of characteristics of Y. Then any model of Y, say y_i, can be described by its characteristics, that is $y_i = y_i(q_{i1},...,q_{ij},...,q_{in})$, where q_{ij} is the quantity of the jth characteristic provided by model i of good Y. The hedonic price function for Y gives the price of any model as a function of its characteristics. Specifically for y_i: $p_y = p_y(q_{i1},...,q_{ij},...,q_{in})$. If $p_y(\cdot)$ can be estimated from observations of the prices and attributes of different models, then the price of any model can be calculated from knowledge of this characteristics.

The effect of an incremental increase in the jth attribute on price, that is the implicit price, is the partial derivative of $p_y(\cdot)$ that is $\frac{\partial p_y}{\partial q_j}$ and represent, all things equal, the marginal willingness to pay or marginal benefit for small changes in q_j for each individual case. The next section describes the data used for our empirical application and discussed the limitations of our findings.

Data description

We collected data on 806 Hotels in 34 beach destinations in Mexico. As reported in Figure 1, the 34 destinations are the main beach destinations in Mexico. For each destination we randomly selected hotel prices and location of hotels within the destination. Additionally, we gathered data on hotels' characteristics and the destination and state attributes as available through the Ministry of Tourism, the Ministry of the Environment, the Ministry of Health and the Statistical Bureau.

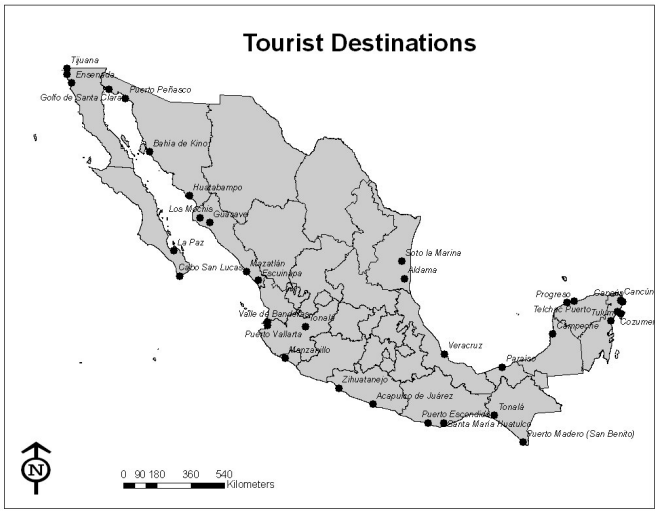

Figure 1. Beach destinations under study

The main variables used for the study are presented in Table 1 below along with the descriptive statistics of the variable under study.

Descriptive Statistics						
Variable	**N**	**Min**	**Max**	**Mean**	**Std. Deviation**	**Description**
usprice	**808**	**8.27**	**1462.11**	**120.9278**	**127.90**	**average price of a room in hotel i**
numhotels	**808**	**1.00**	**126.00**	**51.8899**	**37.10**	**number of hotels in destination j**
numplayas	**808**	**.00**	**20.00**	**8.9233**	**5.47**	**number of beaches in destination j**
agua	**808**	**10.00**	**2282.00**	**59.8688**	**285.87**	**water quality in beach I in destination j**
stars	**808**	**1.00**	**5.00**	**3.7512**	**0.97**	**number of stars in hotel i**
numsitios	**808**	**.00**	**16.00**	**6.2611**	**5.61**	**number of archeological sites in destination j**
museos	**808**	**.00**	**39.00**	**17.9752**	**10.28**	**number of museums in destination j**
ecoturismo	**808**	**1.00**	**10.00**	**5.1708**	**2.30**	**number of eco turistic activities in hotel i**
violencia	**808**	**141.70**	**2178.20**	**1014.6916**	**499.33**	**rate of violance in destination j**
aguatrata	**808**	**10.00**	**107.00**	**45.0371**	**28.36**	**number of water treatment plants in destination j**
ssambiental	**808**	**1105.00**	**891076.00**	**78821.6287**	**216,401.44**	**expenditure in environmental services in destination j**
genero	**808**	**.39**	**.48**	**.4106**	**0.02**	**ratio of women/men in destination j**
corrupcion	**808**	**3.10**	**9.70**	**6.9527**	**1.48**	**level of corruption in destination j**
ongs	**808**	**1.00**	**185.00**	**33.0371**	**50.23**	**number of NGO's in destination j**
inversion	**808**	**.52**	**1575.40**	**691.0598**	**667.89**	**amount of investment in destination j**
ocupext	**808**	**.01**	**.82**	**.2926**	**0.24**	**ratio of foreign tourists in destination j**
tortsmall	**808**	**.00**	**127.85**	**6.3152**	**26.26767**	**number of turtles released to the ocean in destination j**
Valid N	**808**					

Table 1. Descriptive statistics and variables description

For our empirical analysis we divided the area into four sections to account for differences in the preferences of a particular destination: Pacific, Caribbean, Gulf of California, and Gulf of Mexico. We found that several variables were correlated and when appropriate we transformed the variables to reduce the negative effects of multicollinearity. The data in itself serves as differentiator of beach destinations and the prices of the room per night in each hotel reflect the attributes of the destination. We divided attributes into three main categories: 1) Location: we believe that individual preferences for a particular location (i.e.

Gulf of California or Caribbean) may indeed drive a consumer's decision and we wanted to account for that; 2) Level of infrastructure of the beach destination and amenities around the hotel such as museums, archeological sites, number of hotels in the destination; and 3) Sustainability attributes to account for both environment and societal attributes such as water quality, number of turtles released in the ocean, and ecotourism activities.

We narrowed down the information of the attributes as close to a hotel as possible but we are aware that some data was aggregated and so we used in such cases the closest possible attributes to the hotel destination. For example, the number of turtles release in the ocean as a proxy for conservation in a particular destination may be the same value for another destination in the same state; the reason is that we do not have singular information on some variables for the destination and let alone for the hotel. Nonetheless, when available we used data particular to beaches, such as data on water quality as reported by the Ministry of Health and the Ministry of the Environment.

Model specification

Following Freeman III (2003) and Hamilton (2006), we specified the model as $p_i = p_i(L_{ij}, I_{ij}, S_{ij})$ where L_{ij} is the bundle of location characteristics for hotel *i* in destination *j*, I_{ij} the bundle of infrastructure characteristics for hotel *i* in destination *j* and S_{ij} the bundle of sustainability characteristics for hotel *i* in destination *j*. Just as in (Hamilton 2006), we used a log lineal specification of the form $\ln p_i = p_i(L_{ij}, I_{ij}, S_{ij})$ that has a better fit relative to a linear or quadratic specifications. In addition to giving the implicit price the log lineal model allows for interactions among variables, a property that is desirable when in need of considering the effect of an attribute that may be intertwined with other attributes (Freeman III 2003; Hamilton 2006).

Analysis of results

We ran several regressions based on the relative importance of the variables in the scope of the analysis. We found that in some models, given the aggregation of the data, some independent variables were highly correlated and the results from interchanging variables changed dramatically. Thus we decided to isolate these effects as possible and divided the analysis in three aspects. The models are one for the location, one for the infrastructure and one for the sustainable attributes. The results of the regressions are shown in Table 2 below.

Model	Location			Infrastructure			Sustainability		
Independent Variable	Standardized Coefficients	Unstandardized Coefficients	Std. Error	Standardized Coefficients	Unstandardized Coefficients	Std. Error	Standardized Coefficients	Unstandardized Coefficients	Std. Error
Constant		2.056*	0.09		2.622*	0.085		1.685*	.112
Pacifico	0.13	0.209*	0.072						
Caribe	0.17	0.276*	0.072						
Calgulf	0.154	0.327*	0.08						
stars	0.718	0.578*	0.019	0.677	0.545*	0.019	0.688	0.554*	.019
numhotels				0.012	0.0	0.0010			
museos				-0.159	-0.012*	0.0020			
numsitios				-0.202	-0.028*	0.0060			
inversion				0.214	0.0*	0.0000			
ecoturismo							0.482	0.164*	.033
eco2							-0.461	-0.013*	.003
tortsmall							-0.038	-0.001	.001
invagua							0.134	3.35*	.652
Adj R^2	0.543			0.583			0.568		
N	808			808			808		
F	240.834			226.31			213.56		
The functional form used was a log-lineal specification. Dependent variable is the natural log of price *Significant at 5%									

Table 2. Regression analysis

It is clear from Table 2 a bundle of characteristics differentiate hotel prices. In particular, we found that the sign and magnitude of significant variables agree with our experiences during our field work. For instance: in Mexico, it is well known that vacations in the Caribbean tend to be more expensive than vacations in the Pacific, like Acapulco, but cheaper than vacations in Cabo San Lucas, in the Gulf of California. Our empirical analysis supports this claim. To account for specific characteristics of a hotel, we used number of stars in all regressions to account for quality of the hotel itself as a driver of a portion of price. In terms of infrastructure, we were surprised to find that the preferences and willingness to pay for beach destinations are not necessarily compatible with those preferences of people interested in cultural activities like museums or archeological sites. A possible explanation for these diverging preferences is that cultural sites attract other types of tourists that do not necessarily value the attributes attached to a beach destination.

The focal point of our analysis was the sustainability measures. In this we found several interesting results. First, people are willing to pay an extra premium for environmental activities with the hotel. While we expected this result, we were surprised to find that the willingness to pay increases at diminishing rates. That only says that people will pay for a certain amount of ecological attributes but that there exists a maximum number of characteristics worth paying for.

As far as quality of water, although not significant, the sign for the variable was correct. Just recently, Mexican authorities implemented a public program called "Playas Limpias" that aims to inform the general public about the quality of water in beach over the year. This factor alone may be an early driver that may change firm practices if the regulator can communicate properly to the consumer and the consumer is aware of the available information. And although water quality in beaches is not necessarily the direct responsibility of hotels, when the regulator communicates the public about the water quality, hotels can take a proactive stand to signal back to consumers that they are aware of the situation. Awareness of the hotel that the quality of the environment is in jeopardy may have a premium in the price.

We used as a proxy for conservation the number of turtles released to the ocean by NGO's, the community, and authorities. We found that there is an incentive to conserve but that the incentive to conserve is not reflected in the price as clearly as water quality or ecotourism activities. Our reasoning is that turtle releases depend more on a pristine environment where there is less infrastructure. In fact, after finding this result, we went back to the data and traveled to a sample destination in Huatulco Mexico to find that, indeed, greater numbers of turtles are released in cheaper destinations with rustic infrastructure and fewer hotels.

All in all, we believe that the data and the empirical application support the idea that differentiating hotels based only on sustainable attributes have greater willingness to pay. Figure 2 shows a map of Mexican destinations for which we report sustainable attributes. We used the reported coefficients in Table 2 and calculated the expected price given the data for each hotel before averaging out the price of hotels by destination. We then mapped the results in GIS by finding the average price across the 808 hotels under study; using the difference from the average for each destination, we arranged the data in three classes. The smaller stars represent destinations with hotels where the average price is below the industry average; these are "below" comparative advantage. The second class of hotels with a small deviation from the mean is

"parity" comparative advantage", and is represented by medium size stars. The third class, represented by the largest star we call "above" average; the hotels in that destination have a comparative advantage over the industry and thus, our results show, it is in their best interests to use the differentiating strategy to create above average returns. Differentiating attributes will require the company to participate and take a proactive stance to preserve the sustainable attributes of their destination.

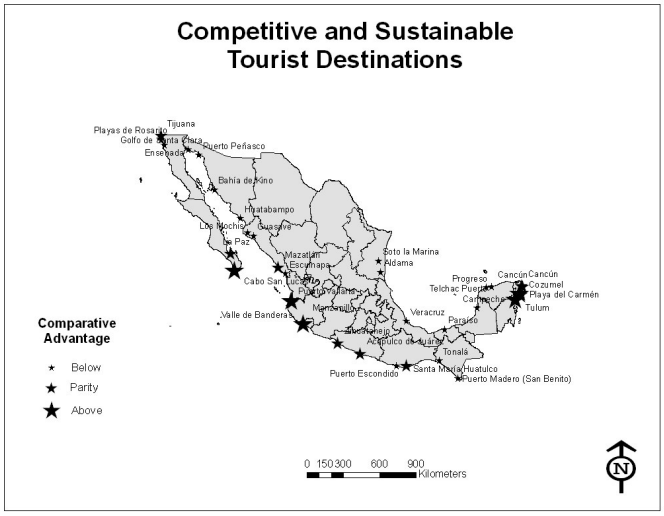

Figure 2. Price results due to sustainable attributes.

Winners and losers: The Renvar approach to sustainability.

To strengthen the argument that differentiating strategies pay and that hotels that take advantage of sustainable practices can differentiate themselves from the competition, we extended the analysis to explain how a measure of competitiveness may be explained by a number of sustainable attributes. In this case we ran a multiple regression with the dependent variable "Renvar," a measure widely used by the tourism industry to evaluate its competitiveness; Renvar is a construct of price, occupancy rate, and number of rooms available in a hotel. This measure allows the hotel to follow trends and anticipate possible actions that may benefit or that will allow the hotel to revisit its strategies. For our study, we included other variables that drive willingness to travel to a destination, including rate of violence, level of corruption, and participation of the civil society in the region in addition to the location, infrastructure and sustainable variables used in the hedonic price method. Table 3 shows the results of our analysis.

Independent Variable	Standardized Coefficients	Unstandardized Coefficients	Sig.
(Constant)	25.874	109.41*	4.229
Pacifico	14.414	-53.41*	-3.706
Calgulf	13.329	-54.08*	-4.058
star34	9.018	13.63**	1.512
star5	10.105	90.36*	8.942
numhotels	.097	-0.24*	-2.574
museos	.530	-4.01*	-7.559
violencia	.011	-0.04*	-4.199
corrupcion	2.559	-10.81*	-4.225
ongs	.135	0.77*	5.778
aguatrata	.297	1.98*	6.696
ecoturismo	1.372	2.11**	1.539
invagua	104.033	-161.75**	-1.555
ocupext	18.557	181.64*	9.788
Adj R2	0.424		
N	808		
F	46.632		

The functional form used is a lineal specification.
Dependent variable is Renvar
*Significance level is 5%
**Significant at 10%

Table 3. Sustainable determinants of Renvar

Using the Renvar analysis, we found that location and infrastructure attributes affects similarly to the results reported in the hedonic price analysis. However, since we included some variables that were not significant in the previous analysis, we found additional results. For example, all things being equal, the level of violence and corruption in a destination affects a company's competitiveness. However, when the civil society in a beach destination is more organized, as measured by the number of registered NGO's, Renvar increases. Our interpretation is that a more organized society allows for a more sustainable destination. When this is the case, occupancy, the driver of Renvar, increases. As compared with the previous analysis, we cannot conclude that a more organized civil society is an attribute that increases prices, yet it is a factor that helps to bring people to the beach destination. Similar elements in this case are ecotourism, water treatment in the region and the number of foreigners in the destination. We report the results of Renvar in a similar fashion as that of the previous report on prices. However, relative to the prices analysis, we do not take a difference since Renvar is an internal measure that depends also on the hotel infrastructure. We estimated Renvar through different attributes of sustainability in the sample and arranged the estimates to express high, medium and low Renvar. Finally we mapped the results into three classes. The south facing arrow represents destinations with hotels where the Renvar is smaller relative to the whole sample; we named it "below" comparative advantage. The second class, represented by a

horizontal arrow, represents "parity" in comparative advantage among destinations, and finally the third class, "above" comparative advantage, represent hotels in that destination with a comparative advantage over the industry. Relative to the price analysis in the previous section, Renvar is a measure that accounts also for the supply side, thus the comparative advantage reflected in the price analysis may differ from the comparative advantage of the Renvar analysis although they are closely correlated. Figure 3 maps in GIS the results of the Renvar study. These results show that sustainable preferences are also a determinant of the competitiveness of the company.

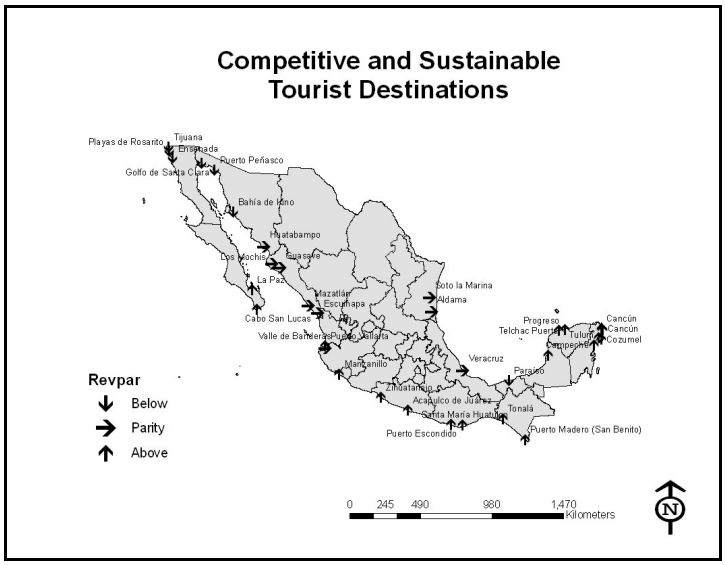

Figure 3. Renvar analysis based on sustainable attributes.

Our empirical analysis demonstrates that sustainable attributes have a positive impact on prices and on competitiveness. To assess and verify our results, we tested these results in the field by approaching hotels, regulators, and community organizations in three different beach destinations and then compared the results with those of the empirical analysis. The next section addresses the main findings of the field research.

Interviews in the field and main results

To verify our findings, we went into the field to discuss with authorities, hotel managers and community members the benefits of approaching competitiveness and sustainability as complementary from the strategic point of view. We did interviews in Los Cabos, Baja California Sur, Huatulco, Oaxaca and

Cancun, Quintana Roo. We prepared an interview protocol for different stakeholders and hotel managers that focused on three main points: 1) The main drivers of sustainability in the hotel or destination; 2) Sustainable business practices of the hotel or destination; and 3) Consumer expectations about the hotels' or destinations' responsibility for pursuing sustainable practices. The results of the interviews are condensed Table 4 below.

	Drivers for Sustainability	**Business Practices underway**	**Consumer Expectations**
Los Cabos, BCS	Parent corporation Policies designed in headquarters Community involvement Local conservation groups Foreign tourism	Certification both voluntary and through the regulators Regular meetings with hotel associations	Conservancy measures Demand of environmental components Demand for ecotourism activities (i.e. Whale Watching)
Huatulco, Oaxaca	Regulator has a strict development strategy that has properly communicated to hotel managers. Parent corporation Policies designed in headquarters Community involvement	Certification both voluntary and through the regulators Development of on-site policies	Consumers are aware of Green Globe Certificate and demand it. Pristine environment Demand for ecotourism activities (i.e. Surfing, turtles)
Cancun, QR	Parent corporation Policies designed in headquarters Community involvement Pressure from national governments Climate and beach erosion Trends in the market	Certification both voluntary and through the regulators Certificates bring energy and water savings Hotel association	Incorporate market trends Consumers demand sustainable practices Consumers have moved to more pristine environments south of the destination. Demand for ecotourism activities (i.e. Snorkeling, turtles)

Table 4. Results of field research in three beach destinations in Mexico.

The interviews verify that hotels are well aware of the need for sustainable practices and that they are slowly adjusting to consumer preferences. Nevertheless, our perception was that some hotels have a long way to go and are not adequately incorporating the benefits of sustainability into their own practices. This is the case in both Los Cabos and in Huatulco, where two major hotel chains are not communicating successfully to their on-site employees the sustainability policies of their headquarters. Moreover, when asked about the hotels' business practices, on-site employees become rather evasive. We believe that if the company does not communicate its sustainability policies effectively to their employees, then it fails to pass the message onto consumers. In contrast, in both Los Cabos and Huatulco, we found hotel chains that are actively involving the community and their employees in their decision-making regarding sustainable practices. This effect is quickly reflected in the perception of community members, who are aware of which

hotels barely fulfill regulation requirements and which are active in promoting and preserving a policy of sustainability. The interviews also verify that hotels in destinations with more environmental amenities, such as turtle release programs or whale watching activities, have built these programs into their day-to-day operations. These hotels are aware that it is in their best interests to maintain attributes that interest consumers. This result verifies the price relation from the hedonic price method discussed before. Finally, we noticed that there is a direct relationship between community involvement and the adoption of business practices. As our Renvar analysis suggests, because hotels depend on the community they can benefit greatly from increased involvement with the community.

Business Sustainability in an era of regulation; an opportunity for the tourism sector.

Firms operate under the assumption that it is possible to have economic benefits without increasing society costs. In doing so, the company operates under a set of constraints imposed by the regulator or more broadly, through institutional constraints (i.e., laws, regulations, and codified norms). When a company operates within the sphere of law and uses institutional constraints as minimum restrictions of behavior, then we say that the firm complies with the law, yet the company does not necessarily behave sustainably. A sustainable business model not only complies with the norms but also internalizes and satisfies expectations of stakeholders to find some balance between the demands of society and the private costs of the firm's operations. From this perspective, business sustainability is no longer a "feel good" mechanism but rather a business strategy that allows the company to be more flexible and to adapt their systems in such a way that not only complies with but goes beyond the norm, yet still generating economic benefits.

In general, companies pursue sustainable practices either because they have to--are required to do so by formal institutions--or they want to--are encouraged to do so by informal institutions. In the first case, formal institutions require companies to adhere to laws and regulations implementing measures. An example of a formal institution in this context is a civil code that would financially penalize violators. The limitation of formal institutions is that they motivate companies to pursue only the minimum necessary to comply with the standard. In the second case, informal institutions encourage firms to improve upon

current requirements: interested companies internalize the expectations of stakeholders and adopt sustainable practices. A hotel may take the advantage of differentiating strategies and adopt business practices that go above those required by law to communicate their interest in sustainable practices. For example, some hotels have joined the discussion of worldwide certificates such as ISO 14000, Green Globe or local certificates like Industria Limpia. Some others have realized the need to become more sustainable and take the advantage of the interests of the community to reduce the impact of its operations. An example is Camino Real in Huatulco Mexico who has developed sustainable practices that go beyond those required by the regulator, even though the Hotel has been certified with Industria Limpia just recently. The hotel management has developed a newsletter to communicate their employees about the interest of the company in taking care of the environment. It has also, for example, invested in a Botanic Garden with endemic species that serves as a nursery for the complex and as a differentiator for the hotel guests.

Conclusion

This paper argues that business strategies based on competitiveness can be aligned with sustainability to create a business sustainable view. We discussed the benefits accrued by following a differentiating strategy and used a case study from the tourism industry to show the positive relationship between price and sustainable attributes. We found that prices are increasing in sustainable attributes such as ecotourism activities and that publicly information about water quality has the potential to influence consumer preferences over beach destinations, preferences that will ultimately drive prices. With regards to competitiveness, we found that community involvement is important in driving more sustainable practices and that the destination attributes in terms of social attributes such as levels of corruption and violence are also determinants of hotels profitability. We reported our results using GIS to show visually how some destinations have a comparative advantage over other destinations when prices and Renvar are estimated through its sustainable attributes. We verified our findings in the field by interviewing hotels, regulators and community members and found that if properly communicated, the sustainable strategy of the hotels is a driver for profitability.

References

Barney, J. B. (1991). "Firm resources and sustained competitive advantage." Journal of Management Studies **17**: 99-120.

Clarkson, P. M., Y. Li, et al. (2007). Does It Really Pay To Be Green: Determinants and Consequences of Proactive Environmental Strategies, Simon Fraser University.

Clewer, A., A. Pack, et al. (1992). Price competitiveness and inclusive tour holidays in European cities. Choice and Demand in Tourism. P. Johnson and P. B. Thomas. Mansell, London**:** 123–143.

Exceltur (2003). *Acción Social en la Empresa Turística*. Madrid, España, Exceltur.

Fleischer, A. and A. Tchetchik (2005). "Does rural tourism benefit from agriculture?" Tourism Management **26**(4): 493-501.

Freeman III, A. M. (2003). The Measurement of Environmental and Resource Values. Theory and Methods. Washington D.C.

Gardetti, M. (2004). "Creando valor sustentable." *Bussiness & Sustainability Letters* **1**(2).

Hamilton, J. M. (2006). "Coastal landscape and the hedonic price of accommodation." Ecological Economics **62**: 594-602.

Hart, S. L. (1995). "A Natural-Resource-Based View of the Firm " The Academy of Management Review **20**(4): 986-1014.

King, A. A. and M. J. Lenox (2001). "Does It Really Pay to Be Green? Accounting for Strategy Selection in the Relationship between Environmental and Financial Performance." Journal of Industrial Ecology **4**: 105-116.

Ogliastri, E. (2003). "Stockholders y Stakeholders." *Debates IESA* **VIII**(8).

Orlitzky, M., F. L. Schmidt, et al. (2003). "Corporate social and financial performance: A Meta-analysis." Organization Studies **24**(3): 403-441.

Porter, M. E. (1985). Competitive Advantage. New York, The Free Press**:** 11-15.

Porter, M. E. and C. van der Linde (1995). "Toward a New Conception of the Environment-Competitiveness Relationship." Journal of Economic Perspectives **9**(4): 97-118.

Rehdanz, K. (2006). "Hedonic Pricing of Climate Change Impacts to Households in Great Britain." Climatic Change **74**(4): 413-434.

Rehdanz, K. and D. Maddison (2008). "The amenity value of climate to households in Germany." Oxford Economic Papers **61**(1): 150-167.

Rosen, S. (1974). "Hedonic Prices and Implicit Markets: Product Differentiation in Pure Competition." Journal of Political Economics **82**(1): 34-55.

Russo, M. and A. Fouts (1997). "A Resource Based Perspective on Corporate Environmental Performance and Profitability." Academy of Management Review **40**: 534-559.

WTO (2009). **Sustainable Development**. World Tourism Organization. Madrid, Spain

WTO (2009). **Tourism Market Trends**. World Tourism Organization. Madrid, Spain