A significant number of tourists now wish to combine their concern for the degradation of the environment with their vacation activities. This concern, together with the need for educated people to work on ecological and scientific projects, has led to the emergence of a small but growing number of UK organisations that bring together paying volunteers and research projects to support research into sustainable development. There is little academic literature on the organisations that provide this travel service. The article examines key dynamics of the research volunteer market examined with data from questionnaire responses, interviews and observation. The article uses Porter’s five forces model and the Strategic Position and Action Evaluation (SPACE) framework to strategically analyse this sector. The findings suggest that none of the five forces are strong enough to depress profits and therefore, the balance sheets should be healthy; however, this is not always the case. Consequently, the SPACE factors that appear related to the financial viability of the firms are explored. In conclusion, firms have the ability to make a substantial contribution to environmental sustainability and their survival is important; however, the risks of operating in this sector are relatively high.

Keywords: Strategic Position and Action Evaluation; Porter’s five forces; research volunteer tourism; scientific projects; social enterprise

Introduction

The need to adopt a strategic approach to the management of tourism enterprises is evidenced by a number of academic texts illustrating the ‘how and why that this should happen’ (Evans, Campbell, & Stonehouse, 2003; Moutinho, 2000; Murphy & Murphy, 2004; Teare & Hadyn, 1994; Tribe, 1997). As the numbers of undergraduate and postgraduate tourism management courses are already prolific, one would expect further books and manuals on the subject in the near future. In spite of this, most applications of strategy operate at the level of the region or policy-making body, or address a strategic issue such as sustainability. There are surprisingly few rigorous studies that apply strategic management concepts at the level of the enterprise, the following have been explored: competitive strategies of hotels and travel agents in Hong Kong and Singapore (Wong & Kwan, 2001); the adoption of balanced scorecard by SMEs in the UK (Phillips & Louvieris, 2005); the importance of SME networks in the USA (Pesamaa & Hair, 2007) and the product life cycle of the Algarve (Da Conceiccao Goncalves & Rogue Aguas, 1997). This study contributes to the literature on strategy at the enterprise level, also the literature on volunteer tourism through a strategic analysis of volunteer research tourist enterprises.
Research on the sustainable livelihoods of indigenous communities in the developing world and the simultaneous conservation of their ecosystems depends upon a great deal of micro-level research. Although many such research projects are funded by such institutions as the World Bank and have produced a large number of technical papers (e.g. Crabbe & Smith, 2006; Jennings, Seymour, & Dunstone, 2006; May, 2005), a significant contribution to the understanding of sustainability at the micro-level has been achieved through the use of volunteers working on small-scale scientific projects. The concept of volunteering has a long and established history in many subject areas; the volunteering literatures closest to tourism are: leisure (Parker, 1992), sport (Coleman, 2002; Cuskelly & Harrington, 1997; Gratton & Kokolakakis, 1997; Sport England, 1996, 2003) and events (Johnston, Twynam, & Farrell, 1999; Ralston, Lumsdon, & Downward, 2005; Solberg, 2003). The literature linked to volunteer tourism is fragmented with studies spanning a range of topics, for example: culture (McIntosh & Zahra, 2005); cultural exchange (Lyons, 2003); spirituality (Zahra, 2006); pilgrimage (Mustonen, 2005; Singh & Singh, 2004); self (Wearing, 2002, 2003; Wearing & Deane, 2003; Wearing & Neil, 2000); self development (Uriely et al., 2003); and environment and conservation (Broad, 2003; Ellis, 2003; Halpeny & Caissie, 2003; Ryan, Kaplan, & Grese, 2001; Weston, Fendley, Jewell, Satchell, & Tazaros, 2003). Studies regarding the research volunteer tourism sector specifically are embryonic but are now beginning to emerge in the literature (Benson, 2004; Clifton & Benson, 2006; Coghlan, 2006; Galley & Clifton, 2004). However, there is little material published on the organisational and business activity that generates and coordinates the volunteering aspects of these scientific projects. It is held that this is of interest since the technical and environmental benefits of these projects depend upon the sustainability of the organisations that recruit volunteers who are willing and able to cover their own expenses. This article addresses the gap by using formal strategic analysis to present an overview of the British organisations concerned with recruiting volunteers and the resulting sector-level dynamics.

The overview presented here is based upon several sources. Nine of the 15 organisations studied responded to a detailed questionnaire; although it is possible to make strategic inference using the SPACE questionnaires (discussed in detail later) alone, it was felt necessary to garner more detail by undertaking further work and incorporating the results of concurrent fieldwork. One author spent 13 weeks participating in three projects in different countries and interviewed 76 volunteers. In addition, the founders of four organisations were interviewed, one from each SPACE quadrant (Interpreting the SPACE analysis section). Material in the public domain was also examined such as final accounts, publicity and company websites, and this information was used to verify and triangulate where appropriate.

The business environment of the research volunteer sector

This section begins by reviewing the competitive dynamics of this niche market using Porter’s five forces. The insights gained at the market level are further developed by the identification of positioning and responsiveness at the level of the firm.

The British Research Volunteer sector consists of organisations that coordinate the activities of those wishing to travel to undertake voluntary environmental projects – often in conjunction with a holiday. The earliest organisation, British Trust Conservation Volunteers, was formed in the late 1950s, initially offering projects in the UK. The sector has grown and internationalised during the latter part of the twentieth century in response
to the growing concern for the degradation of the environment (Holden, 2000; Russo, 1999) at both global and local levels, by a range of stakeholders from the public, private and voluntary sectors.

The founders of these organisations capitalised on the idea of bringing together scientists to lead research projects and volunteers who willingly contribute, both financially and practically, to engage in worldwide research projects, which are scientifically based and therefore, enable sustainable development in the longer term. While the organisations offer a similar service, the range of research projects available to volunteers is complex and diverse and so organisations may be differentiated by their portfolio of projects based on location (often remote) and type of ecological/environmental project (maritime, terrestrial, biodiversity, endangered or under researched animals and ecosystems).

In this section, the key dynamics of the research volunteer market are outlined, drawing the questionnaire responses, interviews and secondary data in the public domain. This is done through the use of the five forces model (Porter, 1980) since this generates key insights into both the attractiveness (in terms of the ability to create financial surplus) and dynamics of the industry. Of course, it is not required that organisations should be profit orientated, but nonetheless it is necessary that costs be covered directly in the absence of funding mechanisms from environmental or government agencies.

**The intensity of rivalry between firms in the industry**

- There are 15 firms operating in the volunteer research market from the UK. None are aggressive profit maximisers; indeed, such an objective is likely to deter the target market of volunteers. This diffidence towards profit is reflected in the legal form of the firms, some being trusts, some are not-for-profit companies while others are a charitable trust arm of a company. In many respects, the social objectives figure more prominently than profit.
- The rivalry between firms appears to be minimal; often firms cannot specify who their competitors are. There is an awareness of a hierarchy, based on size and seniority in the field, rather than rivalry.
- Prices are similar across most of the companies.
- There are few customer-driven pressures to raise standards. The target volunteers generally accepted poorer standards of accommodation and service than a holiday would offer, and responsibility for many aspects of the experience (such as travel arrangements) remains with the volunteer. Litigation against the firm by a volunteer is rare – action brought by a volunteer shot by pirates being a recent high-profile exception
- Non-price competition is neither aggressive nor expensive. There is no great pressure to raise service quality; indeed, this may deter some volunteers. Marketing and advertising differ greatly between the companies in terms of the media used – web sites, colour brochures, advertisements in magazines and editorial coverage. Segmentation in the sector is evident.
- There are few exit barriers to the industry, or any particular project that operates at a given moment. The level of investment by firms in an overseas project is often limited to some basic infrastructure.
- While all the companies in this sector operate in an international arena, there are a few that have domestic projects.
In conclusion, the competitive strategies and the nature of the target market tend towards accommodation rather than high levels of rivalry. Thus, competitive rivalry is muted and, to use Michael Porter’s term, relatively gentlemanly.

**The bargaining power of volunteers (buyers)**

- Switching costs between firms would be high once a particular agreement is made since deposits are relatively high. However, it is normal for volunteers to switch between suppliers over time. In some respects, this reflects the differentiation strategies used by the firms. University students, for example, are likely to select Operation Wallacea since it uniquely offers dissertation support. Other firms offer particular projects to certain age groups only. Earthwatch attracts older volunteers than most other projects and charges a premium price.
- Because volunteers are paying, this gives them greater power than traditional volunteers, and their expectations are higher (although considerably lower than a traditional tourist). However, the relatively small number gives them few opportunities to bargain, and this type of activity is not covered by such trade bodies as the Association of British Travel Agents that might take their part in a dispute. Volunteers have argued for greater transparency in costs and for the benefits of the project to local communities. Some firms now automatically provide this information.
- Although there are 15 firms seeking volunteers, the supply of these volunteers is often reduced by their selection of a particular ecosystem, flora or fauna. For example, a volunteer seeking a project on Pink River Dolphins is required to select Earthwatch since this is the only such opportunity. Many other projects are focused upon niche interests. The weakening of bargaining power is exacerbated if a particular type of project is the requirement of a dissertation, or selected for enhancing a CV for a specific purpose.

In conclusion, the bargaining power of volunteers is relatively small.

**The bargaining power of suppliers**

Suppliers in this context are those who provide the research project that attracts volunteers. Research projects may be initiated and managed by government agencies, non-government organisations (NGOs) and scientists themselves. Local communities occasionally commence projects, but these are invariably formalised into NGOs subsequently. Firms use different strategies to obtain new projects (effectively new markets), some, such as Coral Cay Conservation, respond to invitations from suppliers while Earthwatch invited research proposals from scientists and subject these to a peer review process.

- The relationship between supplier and firm does not actually turn on price. The research project does not pay the firm for providing volunteers, nor does the firm pay any kind of royalty for the opportunity to recruit volunteers for the project. The host gains an indirect benefit through the project itself and the related expenditure of the volunteers. Occasionally a firm may make an infrastructure improvement, such as a new water well.
- In many cases, there is only one person/NGO/community group that could offer/deliver/supply a project. It is difficult for a firm to overcome resistance or even poor service from a particular supplier, and persistent difficulties invariably result in the closure of a project.
Cost-cutting measures have resulted in the centralisation of administration in many firms. This may increase the power of firms in some respects.

In conclusion, suppliers have relatively little power and do not assert control or conditions over the firm.

**The threat of substitution**

Volunteers could substitute either conventional holidays or alternative voluntary activities.

- There is a range of organisations offering volunteer projects. These vary from traditional projects (i.e. no payment involved) to ‘paying to volunteer’ but for cultural, conservation and development-type projects. Similarly, there are ‘Working Holiday’ opportunities, for example: working on a kibbutz in Israel (Uriely & Reichel, 2000) and the ‘Harvest Trail Circuit’ in Australia (Cooper, O’Mahony, & Erfurt, 2004); additionally, working visas are now available for backpackers in countries like Australia and New Zealand (Newlands, 2005).
- The traditional sector of the holiday market may be seen as a substitute – although, many volunteers do not think they are on holiday when they participate in a volunteer project. Larger travel firms offer holidays (packaged, wildlife watching, ecotourist or otherwise) to similar destinations.

In conclusion, the degree of substitution between research volunteering and these alternatives is rather small. Volunteers often add a holiday onto their voluntary experience and may also holiday throughout the year. It would seem that research volunteering and holidays are more complements than substitutes.

**The threat of new entrants**

- The lead time for a new project may be as much as 3 years, often due to different cultural norms concerning the pace of development. This delay would have cash flow implications if pre-project capital expenditure is high, and consequently, this is avoided whenever possible and chiefly restricted to scientific and marine equipment and safety.
- Economies of scale depend on the number of projects emanating from one country and one research centre. If a firm has a wide range of projects in a wide range of countries, then the economies of scale are minimal and do not constitute a significant barrier to entry.
- There is no doubt that many of the firms operate on a differentiation of projects offered (as distinct from the service they provide). However, the scope for additional differentiation is far from exhausted.
- Setting up a project requires a network of contacts in the host country and a moderately efficient home office to recruit and maintain volunteers.

In conclusion, the threat of new entrants is limited by the knowledge and network required to commence trading. Consequently, new entrants are likely to offer new niches rather than compete for existing markets.

**Industry attractiveness and dynamics**

The review of the five forces suggests that none of the five forces are strong enough to depress profits within the industry. Ordinarily, one would conclude that this would
create conditions for generally high levels of profit for any firm with more than moderately efficient operations management. However, inspection of balance sheets and other available data shows that this is not the case.

There are many reasons for this perverse result. The number of people willing to pay to volunteer for a scientific research project is relatively small and has limited scope for building economies of scale. Consequently, it would be very difficult for a firm to build cost leadership and attack its rivals. Rather, the firms have opted for differentiation and niche marketing, further restricting the size of firms and therefore the opportunity to raise the margin by reducing costs. Additionally, the volunteers themselves are generally well educated, environmentally conscious and concerned over the distribution of benefits. To put it another way, one does not pay to volunteer in order to increase dividends to shareholders. Similar caveats would apply to the government and non-government partners of the projects. Volunteers and partners expect to see benefits accruing to the host and research communities.

These constraints place a ceiling on the level of profit acceptable to key stakeholders and the organisational forms and processes of firms. In general, senior management of the firms concerned has been willing to accommodate social responsibility rather than profit maximisation as their mission. Profit maximising firms have been deterred, at present, by the small size and slow growth of the market and the social orientation of the customers (volunteers).

**Methodology**

*The SPACE framework for strategic analysis*

The aim of this study was to integrate the key elements of environment and organisation that operate in the sector. The original Strategic Position and Action Evaluation (SPACE) framework developed by Rowe, Mason, Dickel, Mann and Mockler (1994) achieves this integration by focusing upon two key strategic factors germane to the research intentions of this article: positioning and responsiveness. Positioning refers to the ability of an organisation to place products and services in attractive markets competitively; in this case, to develop projects that volunteers will wish to pay for. Responsiveness refers to the ability of the organisation to marshal sufficient resources to cope with environmental change and instability. Clearly a strategically healthy firm is one that achieves both good positioning and responsiveness.

The SPACE framework has been used in the literature to analyse a range of industries: biotechnology in the UK (Ranchhod & Henderson, 1995); manufacturing in South Africa (Radder & Iouw, 1998); manufacturing in the UK (Li & Hamblin, 2003); professional football in England (Cross & Henderson, 2003) and leisure centres in the UK (Benson & Henderson, 2005a, 2005b).

The methodology for producing the SPACE analysis consists of three parts, and this study required no deviation from methods used in previous studies. First, the strategic variables that determine positioning and responsiveness were identified in context. Secondly, the identified factors were articulated into a research instrument and piloted to ensure managers were able to respond meaningfully. Finally, the survey was distributed to owner/managers of the expedition/volunteer market.

*Identifying strategic factors for the strategic variables*

The original SPACE model includes generic items that identify factors that determine responsiveness and positioning based upon such conventional strategic frame works as:
the Boston Consulting Group (BGC) approach, Scenario Planning (Jeannet & Hennessey, 1992), McKinsey’s Industry’s Attractiveness/Company Strength Matrix, Profit Impact of Market Strategy (PIMS) (Buzzell & Gale, 1987; Schaars, 1991) and Porter’s five forces model (Porter, 1980), to name a few.

The generic items should only operate as a starting point for the analysis as it is always necessary to consult with those in the industry to exclude factors that do not apply and to learn how to translate academic terms into the idiom of the industry. This was undertaken on several fieldwork trips overseas and dialogue with individual managers in the UK. The factors identified are shown in Table 1 and discussed in greater detail in following sections.

**Competitive strengths**

Competitive strengths, in this case, mean the ability to provide a portfolio of expedition projects that are either comparable with alternative providers at a lower cost or the ability to provide a superior/unique project at comparable cost. Respondents were asked to identify directly who they viewed as their competitors and then asked if they saw themselves as smaller as or larger than those identified. Firms often offer incentives in order to retain customer loyalty. Therefore, respondents were asked the rate (low/high) of returning volunteers.

This sector operates in terms of projects that are offered to volunteers; this is clearly different from both the traditional tourism sector and traditional volunteering since the volunteers are required to pay substantial sums to participate. Therefore, a series of questions around the ‘projects’ were identified: quality of project provision; length of project; introduction of new projects; time required to set up a new project; entry and exit barriers, ease of replication; the range of projects on offer in comparison with competitor and relative prices.

Unlike a normal mass tourism package, volunteers make arrangements for their travel separately from the purchase of the project. Many of the organisations suggest travel agencies/tour operators/airlines to the volunteers and the benefit of this relationship was assessed.

**Finance**

Financial strength is important, particularly when there are adverse conditions that will require a firm to withstand the difficult periods or when an opportunity to deploy strengths becomes available. These variables were not difficult to identify and in most instances emulated the generic SPACE framework outlined by Rowe et al. (1994). It was important to capture the financial viability of the expedition/volunteer market in terms of a commercial return that can at least sustain strategic health even if profit maximisation is not the focus of the firm. The expedition/volunteer companies often operate in complex political environments and so firms where asked about the risk of financial turbulence in their portfolio of projects. In the initial investigation of the companies, it was clear that the range and number of projects in different countries were very diverse; therefore, to determine the ease or difficulty of closing down a project was questioned. The study also examined the capital structure adequacy of day-to-day finance and annual turnover.

**Environmental stability**

While the traditional view of volunteering is not associated with payment, the volunteers for the research volunteer market do pay (Benson, 2004); therefore, it is not always clear
Table 1. Factors that determine positioning and responsiveness in the sector.

<table>
<thead>
<tr>
<th>Factors that determine positioning</th>
<th>Factors that determine responsiveness</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Factors that determine a firm’s competitive strengths</strong></td>
<td><strong>Factors that determine a firm’s financial strengths</strong></td>
</tr>
<tr>
<td>1. Advantages due to size</td>
<td>1. Ability to create a surplus of revenues over expenses</td>
</tr>
<tr>
<td>2. Advantages resulting from superior service quality</td>
<td>2. Flexibility resulting from flexibility of capital structure</td>
</tr>
<tr>
<td>3. Long-term advantages following from sustainability of existing project portfolio</td>
<td>3. Adequacy of working capital</td>
</tr>
<tr>
<td>4. Advantages following from the frequency of new project development</td>
<td>4. Ability to recover trade debt quickly</td>
</tr>
<tr>
<td>5. Advantages following from ability to retain volunteers</td>
<td>5. Ease of exit from poor projects and services</td>
</tr>
<tr>
<td>6. Advantages of barriers to entry for existing projects</td>
<td>6. Financial exposure to political risks</td>
</tr>
<tr>
<td>7. Advantages of barriers to entry for new projects</td>
<td>7. Exploitation of financial economies of scale</td>
</tr>
<tr>
<td>8. Advantages from irreparable networks in the supply chain</td>
<td></td>
</tr>
<tr>
<td>9. Advantages from strong relationships with ancillary service providers</td>
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<tr>
<td>10. Advantages following from fast responses to opportunities</td>
<td></td>
</tr>
<tr>
<td>11. Advantages resulting in the ability to charge premium process</td>
<td></td>
</tr>
<tr>
<td>12. Advantages resulting from greater strategic scope</td>
<td></td>
</tr>
<tr>
<td><strong>Factors that determine local attractiveness</strong></td>
<td><strong>Factors that determine degree of environmental instability</strong></td>
</tr>
<tr>
<td>1. Predicted market growth</td>
<td>1. Disruption caused by changes in volunteer demands</td>
</tr>
<tr>
<td>2. Predicted profit potential of industry</td>
<td>2. Disruption caused by inflation and exchange rates</td>
</tr>
<tr>
<td>3. Quality of management elsewhere in the industry</td>
<td>3. Disruption in demand caused by instability of the project country</td>
</tr>
<tr>
<td>4. Barriers to entry</td>
<td>4. Disruption caused by width of product range in the industry</td>
</tr>
<tr>
<td>5. Bargaining position of suppliers</td>
<td>5. Disruption arising from low barriers to entry</td>
</tr>
<tr>
<td></td>
<td>6. Disruption caused by direct competitive rivalry</td>
</tr>
<tr>
<td></td>
<td>7. Price elasticity of company projects</td>
</tr>
<tr>
<td></td>
<td>8. Disruption caused by substitute services</td>
</tr>
</tbody>
</table>

that volunteer behaviour closely relates to that of the more traditional consumer of travel. In most respects, demand is less volatile than in mass tourism. Fieldwork suggests that some volunteers may return for a dozen different projects over a period of time, while others will attend one project to complete their own studies. Some companies build loyalty by offering a range of projects that volunteers switch between; others offer a volunteer different roles within the same project location. The survey evaluated the perception of retention benefits.
The volatility of countries, particularly in the developing world, may disrupt demand, for example the Foreign Office issue warnings of not travelling to certain countries, which in turn affects participant's insurance status, and demand may make operational capacity fall too low for the project to remain viable.

As indicated in the finance section, these companies operate in an overseas environment, and this has implications of the exchange and inflation rates as companies operate in many currencies and in some cases these countries are volatile.

Market entry and exit can be disruptive in some sectors of the travel industry, but less so in the pay to volunteer sector. As can be seen from the survey distribution, there are a limited number of companies in this sector, and barriers to entry and rivalry of competition were seen as key indicators of environmental stability. While the number of alternative providers is relatively small, substitute products are readily available in terms of other types of volunteering opportunities both as short and long term; and the opportunity to holiday in a wide range of destinations is extensive. Other aspects that were explored were the extent to which pricing affects competition and if a small change in price causes a volunteer switch to another company.

Environmental attractiveness
This section was the most difficult to attribute variables too, as there is little known about this emerging sector; however, it is clear to see after examining the companies that this sector has been slow to grow. Whether this will remain the case was explored and respondents were asked to determine low or high growth over the next 3 years. In addition, this section of the study asked about how tightly managed the firms are in this industry, for example is best practice in evidence or is there room for improvement? Questions were also designed to explore the ease/difficulty with which a new firm could enter this industry, the ease/difficulty to make surplus and the problems of negotiating favourable terms with suppliers.

Research instrument and distribution
Having identified the factors that needed enumeration, it was possible to create a questionnaire based upon the classical SPACE form of question and Likert scale answer, as shown in this illustrative question (number 3.1 on the questionnaire):

To what extent does your company make a surplus over operating costs?

Where

1 = substantial loss …….., 4 = costs are covered …….., 7 = commercial return that meets both profit and social objectives.

While the original SPACE framework used Likert scales from 0 to 6, previous research in this area (Benson & Henderson, 2005a, 2005b) suggested that respondents are not comfortable with scoring 0 for some questions. It was, therefore, decided to use a scale of 1–7 throughout. This range was later adjusted in the data analysis stage to conform to the conventional SPACE framework.

The instrument was then sent to the owner/manager of a cooperative firm for completion. The results were then reviewed in a conversation to check for noise between question and answer. As a result, a few minor modifications were made to aid clarity and the questionnaire was distributed (the pilot firm completed the revised questionnaire).

The questionnaire was then sent to 12 companies which a literature search suggested were active in this emerging sector. Firms in this survey were asked to identify key rivals, and
this question identified a further six firms. Investigation of these six suggested that only three were competitors but three were substitutes and therefore not directly of interest to this project. Consequently, 15 companies were contacted, 9 of which returned completed, usable questionnaires.

**Interpreting the SPACE analysis**

The SPACE model consists of a graphic that integrates key internal and external variables around positioning and responsiveness (Figure 1). The internal variables for a company are financial strength and competitive advantage, whereas the external variables are environmental attractiveness and environmental stability. The internal variable financial strength is offset against the external variable environmental stability and forms the $Y$ axis of the SPACE graph, which represents strategic responsiveness. The external variable environmental attractiveness can offset competitive advantage (i.e. there is little purpose in developing exciting innovative projects targeted at those who could not afford to pay) and therefore forms the $X$ axis of the SPACE graph, demonstrating the level of strategic positioning.

The factors for each variable are combined into a single numerical value by calculating the average.

Figure 1 outlines the analysis for the revised data submitted by the pilot company shown in Table 2. The company assessed its average financial strengths as 3.43 from a possible 6 (6 indicates financial resources are plentiful), indicating a moderate financial position. Similarly, the environment of the company was moderately stable with an average of $-2.63$ out of $-6$ (where $-6$ is very unstable). An assessment of responsiveness is found by the midpoint of these two scores at 0.8 which forms the $Y$ axis score as indicated on the SPACE graph in Figure 1. This suggests that there are financial resources available to deal with adapting to any instability. When examining the $X$ axis, the company indicates that it has very good competitive advantage by its average score of $-1.42$ (where 0 is the best position and $-6$ indicates few competitive strengths) and is in a moderately

![Figure 1. The SPACE variables and postures.](image-url)
attractive environment with an average score of 3.60 (where 6 is the most attractive environment). The estimate of positioning is found at the midpoint of these scores (2.18) and is indicated on the graph. The final point of the pilot company is determined by adding together the scores of the variables for the \(X\) axis (2.18) and the variables for the \(Y\) axis (0.80), to establish a final point within one of the four quadrants. The original SPACE framework uses each quadrant to define a strategic posture that indicates the type of strategy that the firm should pursue. In the case of the pilot company, the final point is in the northeast quadrant, which indicates an aggressive posture and an overall strong position for the company.

The four different strategic postures represented on the SPACE graph are: aggressive posture, competitive posture, conservative posture and defensive posture. The northeast quadrant represents the aggressive posture; this is the most attractive quadrant for an organisation to be in. It highlights that a company has the financial resources of which to take advantage in an attractive industry. The conservative posture (northwest quadrant) shows a firm that has requisite financial resources, but is in a weak competitive state. The competitive posture (southeast quadrant) suggests a firm that has an attractive range of projects and is in an attractive industry but does not have the financial resources to take advantage of its strengths. The defensive posture (southwest quadrant) is the most undesirable posture; a firm in this position does not have an attractive range of projects and does not have the financial strength to change this situation. A company in this posture could be facing ruin in the near future.

### Strategic positioning and responsiveness

The SPACE plots for the nine firms that completed the survey are shown on Figure 2. All four postures are represented. In the following sections, the article reviews the factors pertaining to strategic positioning and responsiveness. This is achieved by contrasting firms that are effectively positioned – as plotted to the right of the \(Y\) axis – with those who are not (positioned to the left of the \(Y\) axis). Similarly, effective and ineffective adaptation is identified by a SPACE plot above or below the \(X\) axis, respectively. In both cases, borderline firms (those with a plot above -0.5 but below 0.5) are excluded from the contrast. Unfortunately, this means that three respondents are excluded from discussion on responsiveness (\(n = 6\)) and three respondents are excluded from positioning discussion (\(n = 6\)); no respondent is excluded from both discussions.

The purpose of the exercise is to establish the factors that seem to make a difference between firms that are well positioned and those that are not. To determine the factors that
seem related to effective positioning, the absolute mean response for each answer given by firms to the right of the Y axis (i.e. well positioned) is contrasted with that of the left (poorly positioned). A mean absolute deviation figure is calculated, and those factors identified as of most importance are those with a difference above this figure.

**Effective strategic positioning**

Positioning is the combination of competitive services in strong parts of the industry.

The consultation process identified 12 factors that constitute the overall level of competitiveness of a firm, as listed in Table 1. These are shown contrasted by effective and ineffective positioning as shown in Table 3.

The mean deviation of competitive factors is 2.0. Seven of the 12 factors scored above this (in bold), indicating that successful firms are likely to

<table>
<thead>
<tr>
<th>Factors</th>
<th>Effectively positioned</th>
<th>Ineffectively positioned</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Relative size</td>
<td>5.5</td>
<td>2.0</td>
<td>3.5</td>
</tr>
<tr>
<td>2. Firm’s perceived relative quality</td>
<td>6.5</td>
<td>4.0</td>
<td>2.5</td>
</tr>
<tr>
<td>3. Sustainability of existing projects</td>
<td>5.5</td>
<td>3.0</td>
<td>2.5</td>
</tr>
<tr>
<td>4. Frequency of new project development</td>
<td>5.7</td>
<td>2.5</td>
<td>3.2</td>
</tr>
<tr>
<td>5. Volunteer retention</td>
<td>4.8</td>
<td>2.5</td>
<td>2.3</td>
</tr>
<tr>
<td>6. Barriers to entry of existing projects</td>
<td>4.3</td>
<td>5.0</td>
<td>-0.8</td>
</tr>
<tr>
<td>7. Barriers to entry of new projects</td>
<td>4.3</td>
<td>3.5</td>
<td>0.8</td>
</tr>
<tr>
<td>8. Replicability of networks</td>
<td>4.3</td>
<td>4.5</td>
<td>-0.3</td>
</tr>
<tr>
<td>9. Relationships with ancillary service providers</td>
<td>5.0</td>
<td>2.0</td>
<td>3.0</td>
</tr>
<tr>
<td>10. Speed of response to new opportunities</td>
<td>5.0</td>
<td>4.0</td>
<td>1.0</td>
</tr>
<tr>
<td>11. Charging higher prices</td>
<td>4.0</td>
<td>2.5</td>
<td>1.5</td>
</tr>
<tr>
<td>12. Project range</td>
<td>5.3</td>
<td>3.0</td>
<td>2.3</td>
</tr>
<tr>
<td>Mean absolute deviation</td>
<td></td>
<td></td>
<td>2.0</td>
</tr>
</tbody>
</table>
clearly, these factors are likely to be related to the time that a firm has been operating, both generally and in a particularly locality. further, there is some degree of interdependency between variables; larger firms generally have more projects, etc.

the consultation processes indicated five factors of importance in determining environmental attractiveness. these, together with their relative contribution to effective positioning, are shown in table 4.

the mean deviation of competitive factors is 1.6. two (in bold) of the five factors scored above this, indicating that effective positioning is associated with:

- greater market growth potential;
- a belief in the quality of management in the sector.

of course, both these results may be attribution errors. what respondents attribute to market potential and good management is classified in the porter analysis as low competitive pressures and gentlemanly conduct.

**effective strategic responsiveness**

responsiveness is determined by the availability of financial resources in relation to the degree of environmental instability faced. the consultation process identified seven factors involved in the creation of financial strengths. the differences between responsive and unresponsive firms are shown in table 5.

responsive firms tend to have a greater ability to cover costs and believe that their operations are less susceptible to political risks (see bold figures, table 5). it may be that both are related to the length of time that firms have been operating – in the former factor more costs will be sunk and in the latter the political network may have had longer to mature. responsive firms also tend to have less balanced capital structure – two of the three firms indicate being funded mostly by equity. it is possible that the margin available does not accommodate debt-funded projects without significant risks to the organisation.
Table 5. Financial strengths.

<table>
<thead>
<tr>
<th>Factors</th>
<th>Responsive $n = 3$</th>
<th>Unresponsive $n = 3$</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Surplus over operating costs</td>
<td>5.0</td>
<td>2.7</td>
<td>2.3</td>
</tr>
<tr>
<td>2. Balance of capital structure</td>
<td>3.7</td>
<td>5.0</td>
<td>−1.3</td>
</tr>
<tr>
<td>3. Working capital</td>
<td>4.3</td>
<td>3.0</td>
<td>1.3</td>
</tr>
<tr>
<td>4. Speed of debt recovery</td>
<td>3.3</td>
<td>3.0</td>
<td>0.3</td>
</tr>
<tr>
<td>5. Ease of exit</td>
<td>4.7</td>
<td>3.7</td>
<td>1.0</td>
</tr>
<tr>
<td>6. Political risk to finances</td>
<td>4.0</td>
<td>2.3</td>
<td>1.7</td>
</tr>
<tr>
<td>7. Size advantages over competitors</td>
<td>5.3</td>
<td>5.0</td>
<td>0.3</td>
</tr>
<tr>
<td>Mean absolute deviation</td>
<td></td>
<td></td>
<td>1.2</td>
</tr>
</tbody>
</table>

Table 6. Environmental stability.

<table>
<thead>
<tr>
<th>Factors</th>
<th>Responsive $n = 3$</th>
<th>Unresponsive $n = 3$</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disruption caused by changes in volunteer demands</td>
<td>3.3</td>
<td>5.0</td>
<td>−1.7</td>
</tr>
<tr>
<td>Disruption caused by inflation and exchange rates</td>
<td>3.7</td>
<td>5.0</td>
<td>−1.3</td>
</tr>
<tr>
<td>Disruption in demand caused by instability of the project country</td>
<td>2.3</td>
<td>4.0</td>
<td>−1.7</td>
</tr>
<tr>
<td>Disruption caused by width of product range in the industry</td>
<td>3.0</td>
<td>2.3</td>
<td>0.7</td>
</tr>
<tr>
<td>Disruption arising from low barriers to entry</td>
<td>3.3</td>
<td>3.3</td>
<td>0</td>
</tr>
<tr>
<td>Disruption caused by direct competitive rivalry</td>
<td>3.7</td>
<td>5.0</td>
<td>−1.3</td>
</tr>
<tr>
<td>Price elasticity of company projects</td>
<td>5.0</td>
<td>4.0</td>
<td>1.0</td>
</tr>
<tr>
<td>Disruption caused by substitute services</td>
<td>2.7</td>
<td>5.3</td>
<td>−2.6</td>
</tr>
<tr>
<td>Mean absolute deviation</td>
<td></td>
<td></td>
<td>1.3</td>
</tr>
</tbody>
</table>

Table 6 clearly shows that the unresponsive firms face greater levels of instability for all the factors. In particular, disruption caused by substitutes (alternative voluntary activities and alternative holidays) is greater in weaker firms. In a few cases, such as price elasticity and width of range, unresponsive firms face less disruption than responsive ones, although difference is less than the mean difference.

Critical success factors in the research volunteer sector

This article concludes by reviewing the factors that seem related to the financial viability of the firms. This topic is reviewed in more detail as the article has argued that understanding of sustainability of the environment will depend upon the ability of the organisations to continue to provide volunteers.

Ideally, reviewing the financial viability of firms in an industry would be done with large-scale statistical analysis; however, this is not possible with such a small population size. Consequently, the descriptive statistics are used so that the reader might directly assess the validity of the conclusions presented by the authors.

Figure 3 shows the questionnaire responses to the question ‘To what extent does your company make a surplus over operating costs’ given by the nine respondents – adjusted to centre the scale at breakeven. As would be expected, both aggressive firms cover their
costs, and both defensive firms run at a loss, while the outcomes are more ambiguous for firms with other postures.

In most commercial contexts, financial success is achieved by offering superior quality and charging higher prices (Buzzell & Gale, 1987). This relationship is explored in Figures 4–6, using scattergraphs made from the questionnaire responses. Although

Figure 3. Financial viability of the research volunteer tourism sector.

Figure 4. Financial viability against price level by SPACE posture.

Figure 5. Price level against project quality by SPACE posture.
financial viability is related to the charging of higher prices (Figure 4), project quality is not directly related to either price charged (Figure 5) or financial viability (Figure 6). Consequently, this sector seems to defy the expected relationship between price, quality and profit – reinforcing the social enterprise nature of the organisations.

In the field, volunteers are highly vocal regarding the expectations of where their payment should be spent by the firm. This is often articulated in terms of quality, volunteers are happy to live in very basic, but hygienic, conditions if they can see that their financial contributions are assisting in making the environment and the standards of the local community more sustainable.

Firms that offer a wider range of products are also likely to be more successful (Figure 7). However, it can be clearly seen that one company demonstrates high financial viability (6) but a narrow product range (1) and therefore the implication is that a successful niche strategy may be possible.

Risks, both political and financial, are clearly of concern to firms but neither is directly related to financial viability. Similarly, many firms identify risks associated with the difficulties in closing loss-making projects (Figure 8); yet these are not directly related to financial viability either. That is to say that financial viability is not particularly associated with risk minimisation, but is more commonly related to a stratagem of providing projects that individuals will pay higher prices for, and return to the same company subsequently.
Financial performance does seem to be linked to the ability to retain customers (Figure 9). For some firms, these customers are the volunteers who return year on year to projects. However, other firms have taken a business-to-business approach and develop links with institutions, such as universities, that may supply such volunteers.

**Conclusions**

This article has examined a small but growing sector that has the potential to make a disproportionate contribution to an understanding of sustainability through the provision of volunteers from the developed world that pay in order to generate scientific knowledge for sustainable objectives. The long-term outcomes of this research have far-reaching implications; for example, the effects include: ecosystem conservation; livelihood enhancement; local business benefits and local entrepreneurial activity; the engagement of local scientists working with international scientists; the education of local community members; the collaboration of partners and the development of stakeholder networks. While the volunteer plays an important role in the sustainability of this work, the ethical nature of the customer (volunteer) will deter entry from profit maximising firms. Fortunately, the industry dynamics do not make things particularly difficult for the socially orientated firms that are active. Volunteers can usually be accommodated within the portfolio of projects and additional volunteers may also be brought into the sector through innovative projects or interesting locations.
The trend to offer a wider range of projects tends to indicate better financial viability of the firm. Several of the companies have recently acknowledged the vulnerability inherent in offering a limited number of projects in a limited number of countries and, therefore, have diversified to expand their range. This action, however, needs to be accompanied by the development of unique projects that attract volunteers both willing and able to pay premium prices. Similarly, funding such expansion through debt is particularly risky. All firms acknowledge that operating in this sector is of a moderate to high risk, as the nature of the projects means they are often operating in developing countries that are politically and economically unstable. Many of the companies seek to engage in political circles to ensure a high profile in the operating country and offset some of that instability. This path, however, is a double-edged sword, in that it can create difficulties in terms of closing down loss-making projects. The political pressure linked with the social responsibility of working with indigenous communities and ecosystems that are at risk often has ethical rather than financial implications.

Although it is acknowledged that the numbers involved in this research are small, there is little doubt that the research volunteer sector has the ability to make substantial contribution to environmental sustainability by the scientific research that is undertaken. At the same time, the fragility of this sector is also evident and the strategic health of several firms is at best questionable and while the firms in the sector should be enjoying healthy balance sheets the findings suggest otherwise, indicating that the risks of operating in this sector are relatively high.

References


