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Exploring SWOT analysis – where are we now? A review of academic research from the last decade

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Exploring SWOT analysis – where are we now?

Exploring
SWOT analysis

A review of academic research from the last decade

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Abstract

Purpose – The purpose of this study is to examine the use of the strategic management tool, Strengths-Weaknesses-Opportunities-Threats or SWOT analysis, and to assess how the methodology has been used as well as changes to the methodology. The findings both for and against SWOT analysis should lead to a balanced view of the technique as well as yield ideas for needed theory building.

Design/methodology/approach – Using the ABIInform Global® database, academic peer-reviewed articles were compiled indicating SWOT as one of the article's key index and search words.

Findings – The use of SWOT analysis continues to permeate the academic peer-reviewed literature. Research supports SWOT analysis as a tool for planning purposes. Over the past decade, SWOT research has focused on analyzing organizations for recommended strategic actions. As a methodology for strategic positioning, SWOT analysis has been extended beyond companies to countries and industries and is used in virtually every published business case positioned for business student analysis. Additional use of SWOT is as teaching tools by consultants, trainers and educators. This paper provides a summary of the research studies and suggests paths for future research.

Research limitations/implications – This paper is limited to analyzing reports found in a selection of academic peer-reviewed business journals. However, research implications for applying SWOT analysis provides a broad spectrum of industry analysis in North America, Europe, and Asia. Additional limitations are the need to link SWOT analysis to other strategic tools and methodologies for further theory building, since past research continues to lack quantifiable findings on the success of the SWOT analysis.

Practical implications – A fresh view of new directions and implementations for SWOT analysis, as well as other strategic planning tools that can be combined with SWOT, provides guidance for practitioners and policy makers alike.

Originality/value – The article adds value to the existing literature as the first summary of SWOT research indicating its uses and limitations. Support of its usage and place in the strategic literature is validated. The SWOT methodology is pervasive, in large part, due to its simplicity. In addition, the use of SWOT as a proven developmental, results-oriented strategic planning tool is also extended, although further research leading to theory building is warranted and recommended.

Keywords SWOT analysis, Strategic management, Research methods, Globalization

Paper type Literature review

Introduction

Researchers in strategic management (Ansoff, 1965; Andrews, 1987; Porter, 1991; and Mintzberg *et al.*, 1998) agree SWOT or Strengths, Weakness, Opportunities, and



Threats, analysis provides the foundation for realization of the desired alignment of organizational variables or issues. By listing favorable and unfavorable internal and external issues in the four quadrants of a SWOT analysis grid, planners can better understand how strengths can be leveraged to realize new opportunities and understand how weaknesses can slow progress or magnify organizational threats. In addition, it is possible to postulate ways to overcome threats and weaknesses (e.g. Hofer and Schendel, 1978; Schnaars, 1998; McDonald, 1999; Kotler, 2000), or future strategies, from SWOT analysis.

SWOT history

The origin of the term "SWOT" is unknown. SWOT analysis was described by Learned *et al.* (1969) and has grown as a key tool for addressing complex strategic situations by reducing the quantity of information to improve decision-making. On-line wikis credit SWOT's origination with Stanford University Professor Albert Humphrey who led a research project in the 1960s and 1970s based upon the United States' Fortune 500 companies but no academic references to support this claim can be found (King, 2004). Haberberg (2000) stated SWOT was a concept used by Harvard academics in the 1960s while Turner (2002) attributed SWOT to Igor Ansoff (1987).

Koch (2000) credited the contributions of Weihrich (1982), Dealtry (1992), and Wheelan and Hunger (1998) to SWOT's further development and innovation. Wheelan and Hunger (1998) used SWOT to find gaps and matches between competences and resources and the business environment in their popular business policy and strategy text while Dealtry (1992) approached SWOT in terms of groups and vectors with common themes and interactions. Regardless of the exact historical credit for coining the term "SWOT", it has a half-century of use and documentation in the literature.

SWOT usage

SWOT has been used by countless practitioners, marketing researchers, and is a frequent and popular tool for business marketing and strategy students. Its simplicity and catchy acronym perpetuates its usage in business and beyond as the tool is used to assess alternatives and complex decision situations. In the business arena the grouping of internal and external issues is a frequent starting point for strategic planning. It can be constructed quickly and can benefit from multiple viewpoints as a brainstorming exercise. Typically, managers first consider internal strengths and weaknesses (at the top row of the 2×2 grid) which can include image, structure, access to natural resources, capacity and efficiency, and financial resources. At the bottom row of the SWOT grid, external opportunities and threats including customers, competitors, trends in the market, partners and suppliers, social changes and new technology, and various environmental economic, political and regulatory issues are included. SWOT analysis assists in the identification of environmental relationships as well as the development of suitable paths for countries, organizations, or other entities to follow (Proctor, 1992).

Glaister and Falshaw (1999) agree SWOT analysis is one of the most respected and prevalent tools of strategic planning. Dickson (2002) agrees the traditional SWOT analysis can be re-conceptualized in terms of the direction and momentum where the market can still be changed. This provides insight into teaching marketing strategy and competitive rationality skills. Valentin (2001) advocates SWOT analysis as the

traditional means for searching for insights into ways of crafting and maintaining a profitable fit between a commercial venture and its environment. SWOT is used to identify cultural impediments and advantages and external governmental roles as well as internal company issues. Glaister and Falshaw (1999) found SWOT analysis one of the highest ranked set of tools and analysis techniques used in strategic planning in companies in the UK. Panagiotou (2003) contends SWOT analysis is used more than any other strategic planning tool.

Purpose of the research paper

While SWOT is a pervasive, accepted concept in strategic management, the tool itself has not been subjected to analysis. The purpose of this paper is to review the last decade of SWOT's usage in the academic literature and categorize the levels and types of applications for further analysis and extension as well as to aid subsequent theory building.

Methodology

For the past decade from June 1, 1999 through June 30, 2009, the authors searched peer-reviewed academic research included in the database ABIInform Global® for SWOT analysis studies and articles to identify SWOTs uses, trends, and recommendations. This database includes over 3,020 publications, primarily about business conditions, management techniques, business trends, management practice and theory, corporate strategy and tactics, and competitive landscape (www.proquest.com) which is the typical domain for SWOT analysis research. Its coverage of business and management journals over time, it provides a unique historical perspective on hundreds of topics, including corporate strategies, management techniques, marketing, product development, and industry conditions worldwide. "SWOT" was used as the only search term and the search was limited to academic research, published in peer-reviewed journals only. A total of 145 research studies emerged using the search criteria; three were eliminated because they were duplicate entries in the database and another article was eliminated as the reference to "SWOT" did not relate to SWOT analysis, leaving a total of 141 studies over the decade of study.

As the field of strategic management has grown with the changing international economic landscape, the last ten years was selected as an important time frame to judge both usage of the methodology and changes in its usage over time. As shown in Table I, studies per year ranged from four in 2001 to 30 in 2007.

The 142 studies were examined for trends, issues, uses of SWOT, and value-added in long-term planning. Specifically, studies were sought that indicated sole use of SWOT analysis or if SWOT was used in combination with other long-range strategic planning tools. The authors next used affinity diagrams to group and classify the collected studies using summaries on index cards. Affinity diagrams are a popular text clustering technique used to categorize large number of seemingly disparate comments

Table I.
Refereed journal articles
referencing SWOT
analysis by year of
publication – June 1, 1999
to June 30, 2009

Year	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	Total
Number of studies	5	10	4	8	8	13	18	12	29	22	12	141

(Dobrzynski, 2007; Levesque and Walker, 2007; Plain, 2007; White *et al.*, 2002; Mango, 2006). The affinity diagram methodology was chosen due to its importance as an interpretative, qualitative approach to research, allowing for investigation and emergence of multiple contextual variables or classification schemes.

The objective of the methodology is to utilize the qualitative data for explanatory purposes and to generalize findings in support of theory based on a distillation of the various respondent comments. The clustering of issues into logical categories helps draw inferences from the data collected. Thus the goal is to better understand categories of service failures and identify the service failures that result in customer defection.

The researchers summarized, grouped, and clustered the comments by key themes and focus areas. Through the iterative process, major classifications were identified to group the studies. Working alone, the authors initially coded the studies using affinity diagrams and then working together they developed the final classification framework for organization based primarily on the level of analysis and usage of SWOT analysis within the studies, i.e. on an individual level of analysis, on an organizational level, for an entire industry, and for an entire country. Within each of these main categories, the list was further divided as to a lone analysis, paired comparisons or multiple comparisons. Two additional groups of studies emerged from the affinity diagram analysis that did not fit into a classification as a business analysis. The first focused on the use of SWOT as a research tool or method for strategic planning. These studies were grouped separately as were the second group of business cases targeted for student analysis and published primarily in business case journals. In each case study the SWOT methodology was recommended as a tool for student decision-making. Once the categories were finalized, the co-authors again separately coded the studies into the framework alone and then together discussed and agreed upon the final classification as shown in Table II and discussed below.

Individual

While SWOT analysis is primarily used to aid an organization plan future strategies, the framework can also be applied to individuals. While no studies looked at only one individual or a pair of individuals, one study did focus on entrepreneurs as a group. Ames and Runco (2005) used the SWOT analysis framework to determine why certain entrepreneurs were successful. Their study polled 47 successful entrepreneurs using a pencil-and-paper format and applied SWOT to the entrepreneurs' own businesses and developed SWOT scores for each business.

Organization

As expected priori, SWOT analysis was frequently applied to organizational assessments for strategic planning. Studies report use of the tool for individual organizations, for comparing two companies, and for assessing several companies (but not the entire group of companies comprising an industry). Individual studies were grouped into subcategories of education:

- healthcare;
- government and not-for-profit; and
- for-profit companies.

Studies		
	<i>Individual</i>	<i>Individual</i> As a pair As a group <i>Individual</i>
1	N/A	N/A
13	Entrepreneurs <i>Education:</i> Shih Chien University (Taiwan) University of Warwick (UK) Vocational Training Council's Hong Kong Institute of Vocational Education Open University (UK) University of SC (US) <i>Healthcare, Government, and not-for-profit:</i> National Health System (UK) Hospital International Association of Applied Psychology Hsin-Chu City Government of Taiwan Pukekura Public Park in New Plymouth, New Zealand <i>For-profit companies:</i> Air China Kirby Cadbury Schweppes High growth firm wealth preservation US non-profit organizations Universities – information systems Airline maintenance activities American Society for Quality Life cycle performance in Scottish firms Avon, Revlon, Max Factor, and Este Lauder cosmetics companies	N/A N/A Ames and Runco (2005) Hai and Tsou (2009) Dyson (2004) Lee <i>et al.</i> (2000) Maiteny and Ison (2000) Kuiper and Thomas (2000) Higginbottom and Hurst (2001) Savickas (2007) Chang and Lin (2005) Wrigley and Gould (2002) Ahmed <i>et al.</i> (2006) Sorensen <i>et al.</i> (2004) Vrontis and Vignali (2001) Beneda (2008) Villinger (2009) Gable <i>et al.</i> (2007) Al-kazabi <i>et al.</i> (2007) Osburn and Klimaszewski (2005) Smith (1999) <i>Strategic Direction</i> (2007b)
2	Two companies	
4	More than two companies	

(continued)

Table II.
SWOT studies by level of
analysis

Table II.

Studies	Industry	One country - United States of America	Nursing Bioenergy Information technology (IT) Healthcare Small business - Arkansas Electronic supermarket Counseling psychology Iranian transportation and energy Iranian power industry Greece, olive oil South Africa, National Mapping Org. Barbados healthcare UK pharmaceutical Vietnam construction Taiwanese Professional Service Finnish maritime industry Hong Kong counseling psychology Chinese counseling psychology Canadian counseling psychology Korean counseling psychology Singapore counseling psychology Portuguese counseling psychology Australian counseling psychology South African counseling psychology Chinese tourism Portuguese tourism Taiwan information Textile/Hong Kong Chinese garment Hong Kong banking	Conway-Morana (2008); Contino (2001) Crow <i>et al.</i> (2008) Dwivedi and Alavalapati (2009); Bielski (2006) Stuart-Kregor (2005) Bradley <i>et al.</i> (2003) Pandya and Arenyeka-Diamond (2002) Leong and Leach (2007a) Jafari and Barattimalayeri (2008) Razmi <i>et al.</i> (2008) Biery and Sfetsiou (2008) Demer and Oosthuizen (2008) Dey and Hariharan (2008) Terblanche (2008) Luu <i>et al.</i> (2008) Ou and Chai (2007) Ryyanen and Jansson (2007) Leung <i>et al.</i> (2007) Hou and Zhang (2007) Young and Nicol (2007) Seo <i>et al.</i> (2007) Leong and Savickas (2007a) Duarte <i>et al.</i> (2007) Pryor and Bright (2007) Watson and Fouché (2007) Miaoyan (2007) Ramos <i>et al.</i> (2000) Lin and Hsu (2006) Tam <i>et al.</i> (2005) Chen and Shih (2004) Ko and Lee (2000)
9				
23		One country - outside the United States of America		

(continued)

Studies			Country	Studies of the Association for Information Systems (2007a)	Koning and van Velzen (2009)
9	Two or more	World market/sports betting Australian/Korean info systems		Kumar (2007)	
		US/India information systems		Kumar <i>et al.</i> (2006); Kumar (2005)	
		Cosmetics		McGrail and Roberts (2005)	
		Cable TV/US and world		Blackman and Forge (2008)	
		EU telecommunications		Papazafetopoulou (2004)	
		SE Europe e-commerce		Schwery and Raurich (2004)	
		Hydraulic power generation		Duarte <i>et al.</i> (2006)	
		Venezuela		Duarte <i>et al.</i> (2006)	
	Alone	Export of BPO services/India		Rajeev and Vani (2009)	
		Foreign direct investments/Bangladesh		Salman (2009)	
		Business process outsourcing/India		Mehia <i>et al.</i> (2006)	
		Offshore outsourcing/India		Nair and Prasad (2004)	
		Capitalism/China		Lin and Lin (2008)	
		E-Government/Turkey		Kharaman <i>et al.</i> (2007)	
		Water quality/Australia		Robins and Dovers (2007)	
		Strategic planning/Turkey		Dincer <i>et al.</i> (2006)	
		Rapid prototyping/South Africa		Campbell and de Beer (2005)	
		Hotel industry/China		Yu and Huimin (2005)	
		Consumer studies/Finland		Turkki (2005)	
		Communication/Japan		Ishino and Kijima (2005)	
		Entrepreneurship/Japan		Helms (2003)	
		Software/Australia		Bertrouder (2002)	
		Franchising/Russia		Anttonen <i>et al.</i> (2005)	
		Internet market segmentation/Taiwan		Lin <i>et al.</i> (2004)	
		Quality/Hungary		Mohar (2003); Helms (1999)	
2	As a pair	Intellectual capital in Spain/Portugal		Prefontaine and Bourgault (2002)	
		Export US/Canada		Palacios and Galvan (2006)	
2	Multiple countries	Service Non-profit		Kong (2008)	
		Intellectual property for China/US/EU/Japan		Kumar and Ellingson (2007)	

(continued)

Table II.

Table II.

Studies	SWOT as a tool		
48	SWOT as a tool	<p>Need for theories in strategy Diagnostic tool Political correctness How to ... series Group decision support system Artificial markets Strategic frameworks Analytic hierarchy process Strategy planning and change Finding strengths and weaknesses Total productive maintenance Strategic issue management system Real options and real strategies Cluster building process Strategic tools Strategic planning profile Business performance Open access publishing Strategic planning NGOs as partners Computer aided narration Appreciative inquiry Opportunity model Telescopic observations Performance index Strategic knowledge Benchmarking system modeling Balanced scorecard Front and back end planning Team and organizational diversity Prairie dogs Career counseling</p>	<p>Grant, 2008 Coman and Ronen (2009) Marques (2009) Evans and Wright (2009) Lin <i>et al.</i> (2008) Zenobia <i>et al.</i> (2009) Mulcaster (2009) Ho (2008) Mayer and Vambéry (2008) Occupational Health (2008) Mishra <i>et al.</i> (2008) Oliver and Donnelly (2007) Zarkos <i>et al.</i> (2007) Reid <i>et al.</i> (2007) Gunn and Williams (2007) Sherman <i>et al.</i> (2007) Lu <i>et al.</i> (2007) Chang (2006) Nickols and Ledgerwood (2006) Domeisen and Sousa (2006) Christian and Flamant (2005) Egan and Lancaster (2005) Morris (2005) Panagiotou (2003); Panagiotou and van Wijnen (2005) Grover <i>et al.</i> (2005) Marti (2004) Grandy and Mills (2004) Ip and Koo (2004) Novicevic <i>et al.</i> (2004) Jackson <i>et al.</i> (2003) Lindborg (2003) Savickas (2003)</p>

(continued)

Studies	
9	Marketing strategy Time management for builders Contemporary management theory Total quality management and e-business Marketing tools SWOT guidelines High uncertainty environments E-business Tools in colleges of business Short-term issues Balanced scorecard Knowledge-based system Resource-based view Business marketing Operations research and management science in universities
	Lippitt (2003) Kasturi and Gransberg (2002) Li <i>et al.</i> (2002) Martin (2002) Dickson (2002) Valentin (2001) Koufopoulos and Chrysoschoidis (2000) Hackbarth and Kettinger (2000) Brewer <i>et al.</i> (2000) Oliver (2000) Lee and Ko (2000) Houben <i>et al.</i> (1999) Faly and Smithsee (1999) Bailey (1999) Sodhi and Tang (2008)
Teaching case	Fleming-Mason energy electric Blockbuster Strayer German Internet Company Pearl Beer America West and US Air Native Alaskan Village Corp. Cattle Ranch Jet Blue
	Sale (2007) Xie and Lin (2008) Stotler (2008) Rau (2007) Elrod (2008) Cobb <i>et al.</i> (2006) Don <i>et al.</i> (2005) Holman and Hinthorne (2004) Box and Saxton (2004)
141	Total

Table II.

Individual – education studies

Hai and Tsou (2009) used SWOT to develop a strategy for the Department of Information Management of Shih Chien University's Kaohsiung campus in Taiwan. The authors used a quantifiable method by including Multiple-Criteria Decision Making with the SWOT analysis. Their resulting SWOT indices were voted upon and weighted to determine the best strategic alternative.

Dyson (2004) studied the strategic development process at the University of Warwick (UK) by linking SWOT analysis to resource-based planning in an iterative process, embedded within overall strategic planning. In another education-focused study, Lee *et al.* (2000) described the framework employed in strategy formulation by the Hong Kong Institute of Vocational Education. The study joined SWOT analysis with the balanced scorecard (BSC) method prior to analyzing the Malcolm Baldrige National Quality Award criteria for education performance excellence with the quality function deployment (QFD) methodology. In another educational study, Maiteny and Ison (2000) presented a reflective inquiry into the SWOT of systems-related courses developed and presented by the Systems Department in the Open University (UK), while Kuiper and Thomas (2000) used SWOT analysis to undertake a major revision of the undergraduate curriculum in the Moore School of Business at the University of South Carolina (US).

Health care, government, and not-for-profit

Another subcategory within SWOT studies of individual organizations included health care, government, and not-for-profit organizations. Higginbottom and Hurst (2001) used SWOT analysis to assess quality in the New National Health System (UK) in a large teaching hospital to develop a therapy quality assurance strategy. Savickas (2007) used SWOT analyses to assess the Counseling Psychology Division of the International Association of Applied Psychology, an organization providing career counseling, as they planned strategies for the next decade. Chang and Lin (2005) used SWOT analysis along with a global competitive index to study the Hsin-Chu City Government of Taiwan. Wrigley and Gould (2002) used SWOT to assess the need for recreation and ways to increase user participation in a public park environment at Pukekura Park, in New Plymouth New Zealand.

For-profit companies

For-profit companies were studied individually as well. Ahmed *et al.* (2006) used SWOT analysis to study Air China, the largest air carrier in China, and their recent total quality management implementation. Sorensen *et al.* (2004) studied the Kirby company used applications of SWOT analysis and the strategic choice approach to assess the company's learning process. Using SWOT analysis, Vrontis and Vignali (2001) studied Cadbury Schweppes, the supplier of chocolate and sugar confectionary. In a general study of characteristics of a high growth firm, Beneda (2008) agrees maintaining a high-growth firm's competitive position is a key factor in stockholder wealth preservation and suggest a firm first perform a competitive analysis, of which SWOT is a key part, to review competitors.

Two or more companies

Interestingly, SWOT analysis seems to be more popularly utilized when analyzing either one organization or when assessing a number of companies. Only two studies during the decade compared only two companies. Villinger (2009) used SWOT along with other managerial frameworks to understand how organizations form their mission and strategies in public service focusing on two non-profit organizations in the US. Gable *et al.* (2007) used SWOT analysis to explore perceptions of differential administrative placement of the information systems academic discipline within two universities.

Three studies profiled more than two companies using the SWOT methodology. Al-kaabi *et al.* (2007) evaluated the business models used for airlines' maintenance, repair and overhaul (MRO) activities through a SWOT analysis prior to further exploratory study of eight airlines. Osburn and Klimaszewski (2005) used SWOT as their first step to planning the annual long-range strategy for each of the American Society for Quality's geographical membership regions. Smith (1999) gathered data via face-to-face interviews with the owner-managers of 150 small firms in Scotland and used SWOT analysis along with trade intelligence of rivals, the use of information technology and financial data to profile the strategic behavior of the young micro firms.

Another study analyzed four of the major players in the cosmetic industry, Avon, Revlon, Max Factor, and Este Lauder using a number of tools in addition to SWOT and included Porter's value chain and 5-Forces, and financial study. According to the study authors the analysis and briefing saves executives and researchers time by selecting only the very best, most pertinent information and presenting it in a condensed format.

Industry*One industry – USA*

As expected, each published industry study was unique. One of the two studies of the nursing industry set goals based on SWOT analysis results and further assessed the results using metrics of employee satisfaction, retention, and productivity (Conway-Morana, 2009). Other studies used SWOT analysis to combat personnel shortages in nursing (Contino, 2001; Crow *et al.*, 2008).

In the US bioenergy industry, perceptions differed among the stakeholders along with the ranking of those SWOT elements (Dwivedi and Alavalapati, 2009). A SWOT analysis in the retail information technology industry examined the specific applications for improvement (Bielski, 2006). Improved assessment tools in the healthcare industry were sought to yield a better marketing plan using SWOT results (Stuart-Kregor, 2005). Bradley *et al.* (2003) used SWOT analysis to evaluate the effects of the Hispanic population on Arkansas small businesses. The favorable results on the economy were increased number of workers for production, start-up for new businesses, more consumers of products, and increased purchasers of real estate. A SWOT analysis was used to develop a model of e-tailing for electronic supermarkets to obtain a competitive advantage by Pandya and Arenyeka-Diamond (2002). The Division of Counseling Psychology of the American Psychological Association studied various countries to improve the status of use of counseling. In the US study, Leong and Leach (2007a) report opportunities include the recent attention to social justice as a core area of counseling inquiry and intervention.

One country – non-US

Numerous studies used SWOT analysis to profile non-US industries. In one of the two studies on fossil energy, Razmi *et al.* (2008) reported findings for compiling and prioritizing strategies to illustrate main path long-term planning and development. Those were increasing productivity and efficiency, reducing costs, renewing structure and making companies private, applying information technology, increasing productivity of human resources, and increasing environmental protection, the authors reported all but the last strategy suggested had been implemented in Iran. The second study used SWOT to examine and recommend conservation policies for Iran to alleviate the gasoline crisis (Jafari and Baratimalayeri, 2008). Denner and Oosthuizen (2008) used SWOT analysis to aid in the strategic positioning and configuration of national mapping organizations as enablers of economic and social growth in South Africa.

Blery and Sfetsiou (2008) studied the promotion and marketing of olive oil in the Greek market, using SWOT analysis. Dey and Hariharan (2008) recommended specific projects to improve healthcare in Barbados. Opportunities identified by Terblanche (2008) through SWOT analysis for the pharmaceutical industry in the UK were off-shoring, advanced application of information technology, climate change, and a new approach to sales and marketing. Using both the balanced scorecard and the SWOT analysis, Luu *et al.* (2008) evaluated the construction industry in Vietnam with 11 specific solutions in four categories of new organization structure, managing processes on site, cost control, and better equipment management.

Ou and Chai (2007) recommended new ways to evaluate management consulting firms by showing what the firm does and how it adds value for clients and recommendations setting up business in Taiwan. Ryynänen and Jansson (2007) used SWOT to aid the Finnish maritime industry as they reviewed challenges of setting up international business operations in China. The main finding of the study was in order for a company to be successful each must share information across companies and the entire industry.

A series of international studies conducted by the Division of Counseling Psychology within the American Psychological Association sought to improve the status for the use of counseling in several countries. Those recommendations were all derived from SWOT analysis. Countries reporting research findings were Hong Kong (Leung *et al.*, 2007), China (Hou and Zhang, 2007), Canada (Young and Nicol, 2007), Korea (Seo *et al.*, 2007), Singapore (Leong and Savickas, 2007b), Portugal (Duarte *et al.*, 2007), Australia (Pryor and Bright, 2007), and South Africa (Watson and Fouche, 2007).

To increase tourism in China (Miaoyan, 2007) and Portugal (Ramos *et al.*, 2000) both studies recommended a development pattern for their respective countries. Ramos *et al.* (2000) identified the main constraints to development as governmental control and over-dependence on EU funds.

Suggestions for Taiwan's information industry were to sustain its R&D performance and play a more important global role based on SWOT analysis (Lin and Hsu, 2006). Chen and Shih (2004) state the World Trade Organization's accession benefits the Chinese garment industry through foreign-invested enterprises to gain direct access to overseas purchasing networks. Tam *et al.* (2005) studied the textile and clothing industry in Hong Kong with a recommendation to develop an original brand management business for the preferred approach. Using both Eastern and Western

cultures, Ko and Lee (2000) provided a strategic formulation from the Chinese banking industry in Hong Kong using tools from SWOT analysis, the balanced scorecard, and Sun Tzu's Art of Business Management.

Two or more countries

Using SWOT analysis, Koning and van Velzen (2009) studied sports betting exchanges with an argument that liquidity is the determinant of the long-term success. SWOT analysis was implemented in an educational setting to determine where Information Systems Departments should be placed in four universities across two countries – Australia and Korea (Communications of the Association for Information Systems, 2007a). The analysis provided a useful basis for decision makers to use opportunities and minimize threats.

Kumar (2007) compared software development companies in the USA and India. The analysis using SWOT, financial performance data, and Porter's 5-Forces showed a common business strategy between the US and Indian information technology and software companies. Using the same analytical tools, trends in four market leaders in the cosmetics industry were reported in two studies (Kumar, 2005; Kumar *et al.*, 2006). The practical implications of the results indicated a move toward more joint ventures throughout the world between drug companies, cosmetic companies, and nutrition/food companies.

McGrail and Roberts (2005) studied the worldwide cable television industry. Using the SWOT analysis for the environment, value chain analysis for the core activities, and a Boston consulting group product matrix to assess products offered by the industry, four forces emerged that have impacted the industry but caused few modified strategies. Similar results were found in telecommunications across the European Union (Blackman and Forge, 2008). Schwery and Raurich (2004) used the SWOT analysis to assess new technologies within the hydraulic power generation business. They reported the technology push was found in specified market segments. Finally, Papazafeiropoulou (2004) studied e-commerce and information technology from eight countries. Recommendations were to assist the Southeast Europe region to become more advanced as compared with the Western Europe region.

Country

One country

Duarte *et al.* (2006) used SWOT analysis to review challenges facing Venezuela, particularly in the area of oil production. Because of the importance of business process outsourcing (BPO) in India, a SWOT analysis of competition along with a country attractiveness index was used to arrive at recommendations for continued success (Rajeev and Vani, 2009). In a second study of BPO, Mehta *et al.* (2006) interviewed 28 executives in business process outsourcing firms in India and found four global research agencies and a national trade association supported their findings. Organizational changes to use the results of the SWOT analysis are in development. A third study assessing business conditions, physical infrastructure, information technology infrastructure, financial institution and government support were utilized SWOT analysis for offshore outsourcing in India (Nair and Prasad, 2004). Salman (2009) studied Bangladesh's economy using SWOT analysis. Without a successful model in Southeast Asia to follow, he suggested that remittance inflow would act as

lifeblood for their economy. Lin and Lin (2008) researched capitalism in China. An externally-focused SWOT analysis was conducted to provide American firms with future opportunities and threats of doing business in China. They found that many times, governments are at the forefront of long range planning and implementation seems too long. Turkey implemented SWOT analysis as part of their action plan for implementing e-government (Kahraman *et al.*, 2007). The strategies have been developed as a result of the analysis combined with analytic hierarchy process. Similarly, Australia used SWOT analysis to evaluate the efficacy of boards as key agents of regional planning and implementation of water quality (Robins and Dovers, 2007). Suggestions were to streamline program administration, introduce greater clarity and consistency in bilateral agreements, moderate regional responsibilities, enable regional flexibility, support effective capacity building measures, and ensure consistent resourcing.

Dincer *et al.* (2006) reported findings from strategic planning practices of 135 large Turkish firms. Comparison of foreign-owned firms and local firms indicates foreign-owned firms adopt a broader and deeper repertoire of tools and techniques for planning and believe the strategy process is more deliberate. The development of rapid prototyping and the research and development effort in South Africa was examined through use of the SWOT analysis (Campbell and de Beer, 2005). The analysis found governmental support could enhance the growth of rapid prototyping. Yu and Huimin (2005) reported the hotel industry in China is experiencing fundamental reform in structure and development. A SWOT analysis was completed with positive results for successful growth reported.

Academe also uses the SWOT in many sectors. One study reported a home economics Master's degree programs in Finland (Turkki, 2005). In general, Turkki (2005) found students have a very realistic and positive view of their studies.

Ishino and Kijima (2005) used project management methodology for stimulating strategic communication in Japan. The systems-based methodology used soft systems methodology for strategy communication (SSM-SC) and used SSM as well as SWOT and Business Score Card maps for integrating thoughts and language of participants. Helms (2003) looked at the SWOT as a tool for entrepreneurial growth in Japan with suggestions and needed changes. Factors to consider included regional infrastructure, local skill levels, and cost-based factors. SWOT analysis of software enterprises in Austria were the basis for Benroider's (2002) study. Results showed differences in perceived success factors between micro, small-to-medium, and large software enterprises.

Anttonen *et al.* (2005) studied franchising in Russia and suggestions included providing loans for small businesses, educating the public, and encouraging the establishment of a local franchising community. Lin *et al.* (2004) explored segmentation in Internet marketing in Taiwan. Interviews of 137 professionals from nine enterprises formed the basis of the SWOT analysis. Six critical success factors were identified and disseminated to Internet market segmentation projects.

Molnar (2003) credited quality as the reason for Hungary's recent economic success. Four companies were analyzed using the SWOT analysis for both performance and leadership to support their contention. Finally, Helms (1999) used SWOT analysis in her study of China to provide guidance for new venture creation.

Two or more countries

Paired comparisons. Palacios and Galvan (2006) used SWOT in their research on applying an intellectual capital model from six cities in Spain and Portugal. One main finding concerns the use of key organizations and use of formulas to increase cooperation.

Results of an empirical study from 132 Canadian small to mid-size enterprises (SMEs) and 141 American SME's in the aerospace industry showed interesting differences (Prefontaine and Bourgault, 2002). Canadian managers were more likely prone to react to external opportunities, whereas American counterparts were more defensive and primarily adjusted their export behavior to perceived weaknesses and threats. Globally, strategic analysis has a greater impact on export behavior in Canada than in the US study found.

Multi-countries. Kong (2008) reported little research had been done for strategic management concepts in the non-profit sector. His study argues the intellectual capital can best be used in the non-profit sector along with SWOT, the resource-based view and core competency, the knowledge-based view, and the balanced scorecard. Sodhi and Tang (2008) used SWOT analysis for OR/MS ecosystem and one way of bring research, teaching, and practice together.

One of the biggest challenges of industrialized nations entering the Chinese market is protecting intellectual property (Kumar and Ellingson, 2007). Using a SWOT analysis, a comparison of US and Japanese intellectual properties found each use distinctive approaches for protection.

SWOT as a tool

Given the pervasiveness of the use of the SWOT methodology by practitioners and academicians alike, it was not surprising a number of research studies focused on SWOT as a tool for strategic analysis. Grant (2008) suggests to developing managers with the knowledge and insight needed to make sound strategic decisions and guide the development of their organizations is best served by strategy teaching that is rooted in theory. He criticizes the use of folk wisdom (i.e. according to Warren Buffet) or use of the SWOT analysis which he labels as "atheoretic". However, Coman and Ronen (2009) agree that despite its problems, SWOT remains a major strategic tool and agrees a focused SWOT methodology can then distill strengths and weaknesses into core competences and core problems, by using a core-competence tree and the current-reality tree. The core competences and core problems are then linked into a plan of action aimed at preserving and leveraging the organization's core competences, while defending against exposure to core problems.

Marques (2009) used SWOT analysis as a methodological tool to examine the concept of political correctness, an important factor in determining the success of an individual or group. Evans and Wright (2009) agree SWOT analysis remains one of the most useful elements of the strategic planning process and that it provides a clear summary statement of an organization's strategic position applied from the corporate and functional, down to a personal level but they stress it should be combined with other tools like Porter's 5-Forces analysis and not used in isolation. Lin *et al.* (2008) presented a group decision support system for facilitating the process of core knowledge selection which uses the characteristics of certain existing analytical and mathematical methods, including knowledge-based SWOT analysis, knowledge audit

instruments, gap analysis, synergy analysis, similarity measures, multi-objective linear programming, and fuzzy programming.

Zenobia *et al.* (2009) used SWOT in their positioning applications and agent-based social simulations and found the application useful for forecasting future market behavior. Mulcaster (2009) after experiencing dissatisfaction with Michael Porter's models and SWOT analysis explored other frameworks for strategic decision making, including studying opposing forces.

Ho (2008) in his literature review of integrated analytic hierarchy processes supported use of analysis tools including SWOT as well as mathematical programming, quality function deployment, meta-heuristics, and data envelopment analysis. Mayer and Vamberg (2008) worked to align SWOT with product life cycle analysis with the demands of a global, Internet speed business environment and reengineer the model by adding change as a new dimension. The occupational health field was the focus of SWOT analysis (Occupational Health, 2008). Mishra *et al.* (2008) assessed total productive maintenance frameworks via SWOT analysis.

In addressing issue management, before it becomes a threat, Oliver and Donnelly (2007) reviewed the proper blend of tools and approaches and found Strategic Issue Management Systems along with issue characterization, strategic objectives, force field analysis, stakeholder assessment, scenario mapping, key player assessment and SWOT Analysis should be used in combination and build on each other to resolve the issue. Zarkos *et al.* (2007) incorporated existing strategic tools that are widely used by managers, like SWOT, with the real options to produce more flexible strategic plans.

Reid *et al.* (2007) in their work on cluster-based economic development strategies around the world profile the steps in forming a cluster and include SWOT analysis as part of the process. Gunn and Williams (2007) agree the ubiquitous SWOT analysis is at the core of strategic planning as a tool and framework in industry but have been dismissed in much contemporary, particularly European practice-based, strategic literature. However, they argue that the use of strategic tools has a place in contemporary strategic management but stress the groupings of strategic tool usage can be identified which might indicate that business and business schools should reconsider how they apply, learn and disseminate strategic framework.

Sherman *et al.* (2007) add steps to the beginning of SWOT analysis and developed a seven-step procedure, with templates that assist planners and managers in creating a strategic profile of the firm in a pre-planning stage to the typical strategic management process of a firm which will produce a more accurate SWOT analysis with a greater likelihood of successful strategy implementation. Lu *et al.* (2007) critique measurement methods applied to business performance management agree performance measures are gathered in what has become popularly known as Data Envelopment Analysis, Analytic Hierarchy Process, SWOT Analysis, and Delphi method. Chang (2006) applied the SWOT framework to summarize information on open access publishing models and combined it with the multiple case study approach and found the results could enhance understanding of the open-access publishing model.

Nickols and Ledgerwood (2006) defend the Goals Grid as a strategic planning tool and an alternative to a conventional SWOT analysis and reviews the four basic categories of goals making up the Goals Grid which are:

- (1) achieve;
- (2) preserve;

- (3) avoid; and
- (4) eliminate.

Domeisen and de Sousa (2006) used SWOT framework in their classification of three non-governmental organizations (NGOs) as trade partners (including grass-roots local NGOs, international NGOs, and business-interest NGOs. Christian and Flamant (2005) studied speeches within an enterprise using computer aided narration and suggest the methods can be associated with actors' play analysis, script planning, balanced score card, and SWOT analysis.

Egan and Lancaster (2005) studied assumptions, approaches, and implications of appreciative inquiry (AI) and action research (AR) for organization development (OD) and used SWOT analysis to outline AI and AR as intervention approaches.

Morris (2005) found the ways opportunities are defined in SWOT analysis may result in confusion and stymie its application. He suggests that threats to a business are often called opportunities, as are setbacks and catastrophes, but these are really problems, not opportunities. An opportunity is a favorable solution to a problem, not the problem itself. He suggests this is why employees have difficulty recognizing new opportunities and presents a new model for understanding when a circumstance constitutes an opportunity that defines an opportunity as a sought-after business edge.

Panagiotou (2003) agree there is a proliferation of strategic planning tools to enable managers to formulate competitive strategies in line with the requirements of their business environments and further asserts SWOT analysis may be used more than any other management technique in the process of decision making. Yet he critiques the tools' vagueness and over-simplified process and supports use of the Telescopic Observations framework, developed in mid-1999, as a more structured framework based on its more systematic and coherent organizational environmental appraisal. In a follow-up study Panagiotou and van Wijnen (2005) suggest the telescopic observations strategic framework as a radical alternative to SWOT analysis. It re-focuses SWOT in a way to enhance intelligence gathering and improve strategic marketing planning in practice. Users commit to a dynamic, structured program of continuous situational monitoring, organizational learning, and strategy reformulation, at regular intervals and the framework is used both as a performance measurement instrument and a control instrument. This paper offers an original proposal for general and specific marketing strategy formulation to practicing intelligence gatherers and planners and their academic advisors.

Grover *et al.* (2005) developed a mathematical model for measuring the performance of human resources using a graph theoretic approach. The method considers all the factors and the interactions among them to represent a total contribution of human resources in an organization in a single index. The authors suggest the methodology is useful to improve, compare and rank organizations on their total quality management culture and useful for HRD departments in their SWOT analysis of human resources.

Marti (2004) developed a strategic knowledge benchmarking system, which refines SWOT analysis and includes a firm's the resource-based and activity-based view, sustainable competitive advantages and core knowledge. Marti (2004) has piloted in more than 40 small and medium size European enterprises. Grandy and Mills (2004) agree value chain analysis and SWOT are at the core of strategic management and are models for linking to an organization's worldview. The authors agree the simple model

accounts in large part for the apparent popularity in its ability to model strategic management as complex interrelationships.

Ip and Koo (2004) developed a hybrid of the balanced scorecard, SWOT analysis and quality function deployment to create a pragmatic approach for managerial and consultant practitioners to translate vague strategy into action. They further incorporate Sun Tzu's Art of War to their structured strategic formulation framework and apply it to the case study of a Hong-Kong based professional institute.

Novicevic *et al.* (2004) agree there are problems with the SWOT framework in that it offers incomplete answers to both researchers and practitioners of marketing strategy unless front end planning (i.e. intelligence for market targeting) and back end planning (i.e. integration across marketing functions) are included and they propose a new "dual-perspective" SWOT framework. Jackson *et al.* (2003) used SWOT analysis to analyze 63 studies published between 1997 and 2002 on the effects of workplace diversity on teams and organizations. Lindborg (2003) describes "prairie dog organizations" that are so good at identifying threats in good times in bad that they neglect building additional capabilities and recommends SWOT as an effective responses to dealing with threat along with embracing change and developing skills in scenario planning.

Savickas (2003) to mark the 90th anniversary of the National Career Development Association and to anticipate its 100th, devoted a special issue of *The Career Development Quarterly* journal to nine analyses of the career counseling profession's strengths, weaknesses, opportunities, and threats. Using SWOT as the basis of analyses, each of the articles presented objectives and strategies for advancing the profession in the next decade.

Lippitt (2003) states that a critical and comprehensive analysis must go beyond traditional SWOT analysis to include six priorities for generating balanced decisions:

- (1) managing risk and building a communication plan which include keeping products/services up-to-date and/or being state-of-the-art;
- (2) gaining and maintaining market share and/or serving customers;
- (3) minimizing confusion by building an infrastructure and systems to establish and sustain high performance;
- (4) improving processes and procedures for efficiency;
- (5) quality and return, developing committed and competent workforce and/or building a supportive environment and identity; and
- (6) positioning for the long-term by identifying trends, assumptions and issues that offer opportunities or potential threats.

Kasturi and Gransberg (2002) agree SWOT analysis, along with activity logs, strategic planning and communications, and construction scheduling/network programming, is an important and significant tool in the building industry. Li *et al.* (2002) suggest a hybrid approach for integrating group Delphi, fuzzy logic and expert systems for developing marketing strategies and agree the approach should be used to aid managers in SWOT analysis and the authors have validated their hybrid approach with master's level marketing students.

Martin (2002) studied the relationship between the research on TQM models and the practical delivery of TQM models into senior government/businesses managers who

are struggling to take advantage of the global economy to increase Welsh GDP through the upskilling of senior managers. Martin (2002) found in the case of e-business, the traditional models of SWOT only on local political issues and are should be expanded to develop senior management strategy. Dickson (2002) agrees the traditional SWOT analysis can be reconceptualized in terms of the direction and momentum where the market can still be changed and can be a more useful marketing tool. Valentin (2001) critiques SWOT analysis and suggests the procedural guidelines for using the methodology consist largely of catchall questions devoid of explicit theoretical underpinnings. Thus, the analysis often produces shallow, misleading results. He supports the use of contemporary strategic management theory, especially the resource-based view of the firm. Koufopoulos and Chryssochoidis (2000) use SWOT analysis to examine the strategic planning activities of companies operating in high uncertainty country environments and combine the methodology financial analysis and contingency planning techniques.

Hackbarth and Kettinger (2000) used SWOT analysis to assist managers in transforming their organizations into e-businesses. They used SWOT because tool is familiar yet targeted to this fast-changing environment. Brewer *et al.* (2000) used a variety of tools to provide an approach for continuous improvement for colleges of business. They suggest tools and techniques including the strategic management process model, McKinsey's 7-S Framework, SWOT analysis, groupware software, Porter's Five-Forces Model, and planning/sequencing models are most effective. Oliver (2000) agrees SWOT is popular and further states it is an excellent strategic management tool and has been used effectively with senior management planning particularly for reaching substantive discussions that would not come up in the normal course of a business struggling with short-term issues.

Lee and Ko (2000) suggested joining the SWOT matrix with the balanced scorecard makes a systematic and holistic strategic management system and agrees the SWOT analysis is a more structural approach in setting up the foundation of the balanced scorecard; instead of simply identifying the key performance indicators via gut feeling or by brainstorming. Houben *et al.* (1999) feel that despite the importance of SWOT analysis, many companies often only have vague ideas of their competitive strengths and weaknesses, opportunities and threats. They suggest the development of a knowledge-based system to assist managers of small and medium sized companies in performing a SWOT-analysis and they concentrate only on the identification of internal strengths and weaknesses.

Fahy and Smithee (1999) suggest the resource-based view of the firm helps to overcome some of the frequently cited problems of the SWOT framework and contends that understanding a firm's resource-base is central to effective positioning. Bailey (1999) agrees in business and marketing it is quite normal to carry out SWOT analyses to fully appraise any business situation. Sodhi and Tang (2008) studied the operations research and management science (OR/MS) ecosystem which comprises researchers, educators, and practitioners in its core along with end users, universities, and funding agencies. To understand the reasons for the disengagement in the areas, the team used SWOT analysis.

SWOT in teaching cases

Numerous teaching cases published in various academic teaching journals direct students and other analysts to utilize the SWOT analysis framework to initially profile the organizations presented as develop new strategic alternatives. For example, Sale (2007) case on the Fleming-Mason Energy electric cooperative asked students to use SWOT to examine the costs of providing "unbundled" individual services due to competition brought about by deregulation. Xie and Lin (2008) case on Blockbuster, the global entertainment provider of in-home movie and game, recommended using SWOT analysis to identify the gaps between current situation and the vision and mission. Stotler (2008) in his case on Strayer Education, Incorporated, students were asked to assess the competitive environment using SWOT along with the DuPont identity and Porter's five force model of competitive strategy.

Rau's (2007) research focused on the evolution of the web portal business in Germany based on a case study of an Internet company and to identify and assess strategies to transform an Internet portal. Students are asked to methodologies of strategic analysis, including SWOT analysis, to analyze the case and identify best practice examples for successful entrepreneurship in the Internet world.

Elrod's (2008) case on Pearl Beer asks students to use SWOT to prepare an analysis of what is going wrong at the company and to suggest solutions while Cobb *et al.* (2006) ask students to discuss the critical strategic issues from the merger in their case on America West and US Airways. Don *et al.* (2005) ask students to examine the evolution of native corporations under the Alaska Native Claims Settlement Act of 1971 and some of the challenges facing native corporations and use SWOT to develop a strategy for a small native village corporation on Nunivak Island. Holman and Hinthorne's (2004) case on US Cattle Producer and Box and Saxton's (2004) case on JetBlue airline asked students to use SWOT.

Discussion and conclusion

Vague and simplistic

The SWOT framework, with its vagueness, oversimplified methodology and numerous limitations (Panagiotou, 2003) is a victim of its own success (Pickton and Wright, 1998). Given the age of the model and the myriad of changes in strategic management, the model may not match today's complex market-led economies (Haberberg, 2000; Hill and Westbrook, 1997; Warren, 2002). The notion of SWOT is somewhat elusive and, according to Pickton and Wright (1998), produces a superficial listing output that makes it dangerously simplistic in its structure. Kay (1993, 1999) agrees and further states that SWOT is simply a list. Haberberg (2000) concurs and explains SWOT analysis does not provide a sufficient context for adequate strategy optimization and states the simplicity leads managers to use it incorrectly, producing short lists of non-prioritized, generalized bullet points.

However, analysts most often resort to SWOT analysis as the preferred tool to "kick start" the strategy planning process (Warren, 2002). Proponents of SWOT (Baker, 2000; Piercy, 2002; Piercy and Giles, 1989) dismiss claims that the model is too simplistic. Baker (2000) agrees organizations can benefit for the diagnostic power of SWOT if they use a focused methodology and evaluate issues from the customer's perspective. The industry's key factors for success (KFS) provide the context for the customer and competitive perspectives (Panagiotou, 2004). Hamel and Prahalad (1993,

1994) articulate that the "fit" of competitive strategies can only be evaluated against such industry benchmarks because they indicate organizational capabilities and overall effectiveness in the marketplace.

Gunn and Williams (2007) argue the use of strategic tools like SWOT analysis have a place in contemporary strategic management. Sherman *et al.* (2007) found a pre-planning profile of the firm prior to conduct a SWOT analysis is best. Their profile and templates produce a more accurate SWOT analysis with a greater likelihood of successful strategy implementation.

Thoroughness of brainstorming and expertise of brainstorming team

With all its uses and advantages to planners and strategists, the success of SWOT analysis depends on the thoroughness of the internal and external analysis which is a function of time devoted to the task, the number of experts involved, and the level of expert consensus without a list of questions for brainstorming, managers may leave out key variables. It may also not include personal experiences, beliefs, skills, or attitudes of top management and others that may impact the SWOT analysis.

SWOT lacks a hierarchy between the elements and some of the recent research has attempted to overcome this limitation. The framework does simplify a complex internal and external environment into a shorter list of more manageable issues. Yet the reduction does require human judgement which may vary (see Holweg and van Donk, 2009 for a discussion of conceptual frameworks) and may not be comprehensive or parsimonious.

The quantity and timeliness of information used in preparing the SWOT analysis is important as is the variety and dependability of the various perspectives involved. These experts must also be involved in assessing the reliability of the data as they interpret the information provided. Adequate benchmarking of competitors and the industry are also keys for a strong external analysis. Vetting and subjecting the findings to additional "due diligence" is needed to ensure the information and the interpretation of the SWOT evidence is clear and appropriate. These processes can help reduce some of the subjective nature of SWOT analysis.

Issues in categorizing of variables

In addition, categorization of variables into one of the four SWOT quadrants is also challenging. Strengths that are not maintained may become weaknesses. Opportunities not taken, but adopted by competitors, may become threats. The classification of a variable also depends on the purpose of the exercise. Criteria to assign a variable to one of the four quadrants may be more difficult to clarify if the methodology is not used for a company but for a country, for example.

In research focused on SWOT analysis of a country, and not an individual company, classification of variables is different. Macro-environmental forces that would be an external threat or opportunity for a company are components that would exist within a country and are thus classified as internal strengths and weaknesses. It is also difficult to categorize issues and some managers may reverse opportunities and strengths as well as threats and weaknesses. The differences between internal and external issues may be difficult to spot. Also threats that are acted upon quickly and effectively may be rally opportunities. Emerging technologies too have often not yet proved themselves as strength or a weakness.

Classification challenges

Mulcaster (2009) agrees there is dissatisfaction with existing approaches to strategic management, e.g. Michael Porter's models and SWOT analysis, which has led researchers to seek alternative models. However, he agrees these frameworks have indeed been found to be useful in surfacing issues managers must address when making strategic decisions. Morris (2005) agrees there is confusing in classifying issues. For example, he states that often threats to a business can be called "opportunities" but setbacks and catastrophes are real problems and cannot be classified as opportunities.

Morris (2005) feels an opportunity is a favorable solution to a problem, not the problem itself and presents a model for understanding when a circumstance constitutes an opportunity that improves SWOT analysis. Morris (2005, p. 54) states another problem with SWOT analysis is its circularity. He asks:

How do we know what strengths an organization has? We are told its strengths are what allow it to capitalize on certain opportunities. And how do we recognize these opportunities? By reflecting on the organization's strengths, is the response. Strengths are thus seen as characteristics that allow an organization to take advantage of opportunities. This is a circular thought process causing the organization's compass needle to spin aimlessly.

No strategic direction provided

While SWOT is useful to profile and enumerate issues, it does not provide actual strategies to implement to take advantage of opportunities while leveraging strengths. Often too the simple list of words or bullet points without more detail may be difficult to interpret. The terse format of the SWOT tool may be an oversimplification of a business situation that is more complex. SWOT too does not represent the complete analysis so it may lead to inaccurate results. SWOT is a moving target given the dynamic nature of strategy and this may be only a situational analysis without a diagnostic capacity.

SWOT analysis is the traditional means of searching for insights into ways of realizing the desired alignment (e.g. Ansoff, 1965; Andrews, 1987; Porter, 1991; Mintzberg *et al.*, 1998). Valentin (2001) feels SWOT checklists prompt analysts to jump haphazardly from one issue to another and do not specify how listed issues are to be examined. Thus, traditional SWOT analyses often yield only shallow extemporaneous inventories that may detract from critical issues, themes, and thrusts as often as they illuminate them (Hill and Westbrook, 1997; McDonald, 1999).

Hill and Westbrook (1997) go so far as to stress SWOT be discontinued since it produces a fairly indiscriminate list of variables. Valentin (2001) feels SWOT's procedural guidelines consist largely of catchall questions devoid of explicit theoretical underpinnings. Too often, they produce shallow misleading results and Valentin (2001) agrees more penetrating strategic insights can be gained by following SWOT analysis guidelines derived from contemporary strategic management theory, especially the resource-based view of the firm.

Resource based SWOT

Resource-based SWOT analysis alleviates shortcomings of traditional SWOT analysis not by eliminating checklists, but by focusing on systemic causal issues that afford more perceptive, reliable, and actionable insights. It is grounded in contemporary

strategic management and marketing theory, especially the resource-based view of the firm (e.g. Wernerfelt, 1984; Conner, 1991; Peteraf, 1993; Hunt, 2000). However, it also draws from two complementary frameworks, Porter's (1980) well-known competitive forces paradigm and Brandenburger and Nalebuff's (1995, 1996) value net. Fahy and Smithee (1999) stress the resource-based view of the firm provides a conceptually grounded framework for assessing strengths and weaknesses.

A resource-based SWOT analysis undertakes categorizing particulars as SWOTs only after the focal business' defensive and offensive contexts have been scrutinized carefully. Fahy and Smithee (1999) agree the resource-based view of the firm helps to overcome some of the frequently cited problems of the SWOT framework. They point to numerous reservations on the efficacy of the SWOT framework including Stevenson (1976) who found top managers emphasize financial strengths while middle and lower managers tend to focus on technical issues and that top managers perceived more strengths suggesting a high potential for differences related to the level of management conducting the analysis. A study of European managers by Schneider and De Meyer (1991) found that perceptions could also be influenced by culture.

Need for quantification – no methodology for weighting, ranking, or prioritizing variables

Without ranking or weighting of the SWOT variables, planners and entrepreneurs may assume each of the variables influencing new venture creation are equal in their scope and importance. Kangas *et al.* (2003) agree SWOT provides the basic framework to perform analyses of decisions situations, they recommend adding Multiple Criteria Decision Support (MCDS) methods along with SWOT to determine analytical priorities for the identified factors. Using a case study, they illustrate using MCDS for prioritizing information from the SWOT analysis and ranking various proposed strategic recommendations. In an earlier study Winer (1983) suggested Multi-Strategic Planning (MSP) should follow SWOT analysis and objectives should be ranked by logical reasoning, rather than subjective priority setting. In MSP a long list of possible strategies is developed and matched with objectives and results from SWOT analysis to result in a hierarchy of selected strategies. While ranking variables seems an appropriate next step, there is a dearth of studies suggesting methodologies for prioritizing variables derived from SWOT analysis.

Hai and Tsou (2009) suggest the use of a quantifiable SWOT method which adopts the concept of Multiple-Criteria Decision Making (MCDM) or a multi-hierarchy scheme to simplify complicated problems. The indices of SWOT are voted on and weighted to assess the competitive strategy and the total weighted scores method is then used to identify the best strategic alternatives.

Alternatives and improvements to SWOT

Drago and Folker (1999) criticize SWOT for different reasons. Their concern is that SWOT and similar planning tools place too much emphasis on exploiting strengths and developing competencies at the detriment of examining the link between incompetency and performance. Haberberg (2000) and Warren (2002) argue that users, in general, are becoming increasingly dissatisfied with the poor results of SWOT analysis. Hussey *et al.* (1997) observes that a number of scholars have proposed alternative methodologies to "focus" SWOT and enrich the planning process. He adds

that one such alternative is WOTSUP, where UP stands for "Underlying Planning" and another is SOFT, where weaknesses have been re-identified as "Faults". Some have combined available techniques such as Kaplan and Norton's Balanced Score Card with SWOT (Lee and Ko, 2000). Others have conducted cross impact analysis with SWOT (Proctor, 2002) or taken into consideration Porter's 5-Forces Model to formulate SWOT-based strategies (Ruocco and Proctor, 1994).

Weihrich (1982) has attempted to redesign the SWOT in a different manner in order to generate strategies based on the relationship between internal and external environmental factors and has consequently devised the TOWS Strategic Matrix. Barney (1995, 1997) moved away from the traditional SWOT variables and emphasized the resource-based approach to organizational analysis. His VRIO framework prompts the user to identify organizational key resources in terms of value, rareness, immutability, and organizational characteristics in order to recognize relative organizational competitive advantages and barriers to imitation. Yet many of the proposed SWOT alternatives are again lists of issues or grids with other key terms.

Nickols and Ledgerwood (2006) proposed the Goals Grid as an alternative to a conventional SWOT analysis. This 2×2 grid has four categories:

- (1) achieve;
- (2) preserve;
- (3) avoid; and
- (4) eliminate.

The authors found success with the grid in planning workshops and the visible format followed a logical thought progression for goal development as well as decision-making.

Panagiotou and van Wijnen (2005) proposed a radical alternative to SWOT analysis in their composite "telescopic observations strategic framework". Shinno *et al.* (2006) grouped SWOT analysis with an Analytic Hierarchy Process (AHP) which ranked and prioritized each element using software. Shinno *et al.* (2006) do not really deal with the obvious limitations of SWOT (see our SWOT lesson for a refresher). A refocusing of SWOT was offered by Panagiotou (2003). He introduces a telescopic observations strategic framework which in effect maps strengths, weaknesses, opportunities and threats against his suggested acronym – telescopic observations. So, for example T = technological advancements, E = economic considerations, L = legal and regulatory requirements, etc. The most useful aspect of Panagiotou's article is that not only does he recognize the difficulty in finding the origins of SWOT, but he also manages to unearth some interesting alternatives.

Need to use additional tools of analysis – combinations with other strategic tools and models

As previously seen in the profile of SWOT studies as a research tool, many researchers suggest the need to use additional tools and analysis instead of SWOT or in concert with SWOT. Porter's (1980) 5-Forces Analysis moves beyond the internal analysis to focus on the organization's external environment including the five competitive forces external to the organization. The 5-Forces analysis is applied more specifically to an organization's competitive environment.

Porter's Diamond analysis is also useful to shape strategy to reflect national strengths and weaknesses. Other substitute or complimentary analysis include scenario analysis for exploring different futures, McKinsey's 7S Framework to ensure all part of the internal organization work in harmony, Porter's generic strategies for the best choice for competitive advantage, and benchmarking to compare performance against external competitors or industry leaders.

McGrail and Roberts (2005) in their study of the broadband cable TV industry used a number of models and techniques to organize the qualitative data and report the SWOT technique proved useful in analyzing the organizational environment; value chain analysis was used to understand the value generating components of the core activities; a Boston Consulting Group product portfolio matrix identified the nature of the products offered by the industry. Their research also utilized Porter's (1980) 5-Forces model for industry competition and the works on strategy of Hamel and Prahalad (1994) and of Johnson and Scholes (2002). McGrail and Roberts (2005) agree, as emphasized by Cornford and Smithson (1996), there can be considerable difficulties with the interpretation of qualitative data in a scientific way. These difficulties can include that of generalization and the problem of the openness of the data to a variety of interpretations but found the various techniques helpful to better understand the cable TV industry dynamics.

Oliver and Donnelly (2007) studied tools to develop an approach to address issues that are imminently facing a firm and feel a proper balance between process, interpretation and creativity is important for Strategic Issue Management Systems (SIMS). Their key components of SIMS included: issue characterization, strategic objectives, force field analysis, stakeholder assessment, scenario mapping, key player assessment and SWOT Analysis. Each component together built upon the others produced an obtainable strategic objective and targeted tactical plan.

Bernroider (2002) studied firms of various sizes in Austria and found differences in SWOT analysis factors between micro, small-to-medium and large software enterprises. They found, in general, almost every identified discriminating endogenous success factor is viewed more negatively by managers of micro enterprises compared to larger firms. Lee and Ko (2000) suggest conjoining the SWOT matrix with the balanced scorecard (BSC) makes a systematic and holistic strategic management system and is better than merely identifying key performance indicators by brainstorming. The authors then suggest using the quality function deployment (QFD) methodology with the balanced scorecard's qualitative and quantitative attributes (see Kaplan and Norton, 1996; Sanger, 1998) for improved strategic planning. Lee *et al.* (2000) proposed a strategy formulation framework that conjoins the SWOT matrix with the balanced scorecard to identify critical successful strategic perspectives prior to using the Malcolm Baldrige National Quality Award criteria and quality function deployment.

Areas for future research

With all the weaknesses above, the biggest weakness of SWOT analysis is that it remains atheoretic without the necessary theoretical support to validate the popular construct. This may be partly due to the fact that SWOT analysis is a "snapshot" of a point in time. Because the environment is constantly changing and new strategies also change internal strengths and weaknesses, environmental scanning is needed on a

regular basis to update the SWOT analysis. Research is needed on ways to improve the classifications of factors into the four SWOT categories.

While awareness of the factors is often more important than their classification (opportunities not taken, for example, can become threats), future research should focus on development of a strategic plan from SWOT analysis. Linking SWOT analysis with other primary and secondary research methods including desk research, literature review, expert interviews and workshops, scenario planning, and needs analysis should also be considered.

The future of SWOT analysis seems to lie in ordering the variables and moving toward weighting them will help add focus for decision makers. With ranked variables, prioritization of strategies will be improved and ways to close the key gaps internally and externally can be addressed. Continuation of the SWOT analysis over time can lead to additional knowledge of the country and improve strategic positioning and leverage.

This exploratory work represents an initial profile of the use of SWOT analysis in academic research. Research is also suggested to extend the SWOT analysis methodology. Building on the work of Kangas *et al.* (2003), work to prioritize and rank SWOT variables and the strategic recommendations that result from the analysis is another avenue of research and is particularly needed as SWOT continues to expand in usage beyond individual businesses to countries, regions, and trading blocs. Winer (1983) also recommended MSP or Multi-Strategic Planning to create new strategies derived from SWOT analysis by ranking the variables by logical reasoning versus the traditional subjective priority setting.

Another limitation of SWOT analysis is the tautology critique. SWOT analysis is based on ideas, expertise, and assertions of experts. The resulting SWOT table or 2 x 2 grid is not subjected to empirical tests. This is true of many strategic management theories. Barney (2001) cites Porter's (1980) relationship between industry attractiveness and firm performance. This tautology is simply by observing firms in attractive industries one finds they outperform firms in unattractive industries. Thus, industry attractiveness is defined as a tautology of the ability of firms to have higher performance. SWOT is much the same in that taking advantage of identified opportunities using a firm's strength will lead to opportunities. The argument is circular at best.

The most critical area for future research is that which will lead to theory building. As this decade of literature using SWOT analysis has uncovered, SWOT has been used primarily in strategic planning meetings and organizational-wide planning and brainstorming in its infancy. The literature has advanced to validation of SWOT as an often-used strategic planning tool and one that is assigned to business students in their analysis of business cases. The tool, however, lacks quantifiable validation, which is necessary for theory building.

A framework like SWOT analysis must be subjected to formal, empirical theory testing. There is a tendency in other business fields, according to Schmenner (2009) to draw up new theories without ever rejecting old ones. As a conceptual framework, SWOT varies among the type of elements considered in each quadrant. It varies based on the company or industry to which it is applied. The relationships also lack causality and directionality, although it is assumed a firm will maximize its strengths while working to overcome weaknesses and to capitalize on new opportunities while keeping an eye on threats.

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