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SWOT analysis applications: An integrative literature review

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Abstract

A strengths, weaknesses, opportunities, and threats (SWOT) analysis has become a key tool used by businesses for strategic planning. Scholars have conducted SWOT research for over six decades. However, a collective understanding of SWOT analysis remains vague. This study accessed, analyzed, and synthesized the SWOT literature, allowing for new theoretical perspectives and frameworks to emerge. Using an integrative literature review, this study reviewed SWOT studies historically, providing a greater understanding of the SWOT analysis in different sectors and the different approaches used in SWOT studies. Furthermore, it fills the knowledge gap in the strategic planning context and indicates meaningful implications for managers that could help improve their strategic decisions.

Keywords

SWOT literature, strategic planning, integrative review, literature review

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SWOT Analysis Applications: An Integrative Literature Review

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Abstract

A strengths, weaknesses, opportunities, and threats (SWOT) analysis has become a key tool used by businesses for strategic planning. Scholars have conducted SWOT research for over six decades. However, a collective understanding of SWOT analysis remains vague. This study accessed, analyzed, and synthesized the SWOT literature, allowing for new theoretical perspectives and frameworks to emerge. Using an integrative literature review, this study reviewed SWOT studies historically, providing a greater understanding of the SWOT analysis in different sectors and the different approaches used in SWOT studies. Furthermore, it fills the knowledge gap in the strategic planning context and indicates meaningful implications for managers that could help improve their strategic decisions.

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Introduction

A strengths, weaknesses, opportunities, and threats (SWOT) analysis has become a fundamental tool for organizations to evaluate their position in the market and is widely used to analyze the internal and external environments of organizations during times of indecision (Rozmi et al., 2018; Wu, 2020). The four components identify either internal or external considerations. Strengths refer to the *internal* elements of an organization that facilitate reaching its goals, while weaknesses are

those internal elements that interfere with organizational success. Opportunities—*external* aspects that help an organization reach its goals—are not only positive environmental aspects but also opportunities to address gaps and initiate new activities. Threats, on the other hand, are aspects of the organization’s external environment that are barriers or potential barriers to reach its goals (Aldehayyat & Anchor, 2008; Fleisher & Bensoussan, 2003; Lee & Lin, 2008; Shrestha et al., 2004).

Both academics and practitioners have employed SWOT as a strategic planning technique to investigate organizations’ positions, and accordingly develop their strategies. The SWOT literature has grown extensively; however, its wide use in many different fields and contexts has limited the ability to develop a comprehensive review of SWOT. While there has been a prior review study on SWOT analysis (Gürel & Tat, 2017; Helms & Nixon, 2010), there has not been a collective view on SWOT from the different fields where SWOT is used. Instead, these reviews tend to be more generic or specific to a particular field or a method (Ghazinoory et al., 2011). Therefore, this study aims to assess, analyze, and synthesize the SWOT literature in five fields: (a) general management, (b) education, (c) marketing, (d) healthcare, and (e) agriculture. It provides an integrative historical view of SWOT analysis, enabling the possible development of new theoretical perspectives and frameworks.

This study contributes in several ways to the understanding of SWOT analysis and provides a basis for future investigations. First, to the best of our knowledge, this review is the first to evaluate the SWOT literature in different fields, providing new perspectives on this construct. It fills the knowledge gap in the strategic planning context by interactively and historically reviewing the SWOT literature conducted over the last 60 years. Moreover, this study critically discusses the use of SWOT in five major different fields, offering a completely new collective perspective of SWOT analysis as a strategic tool. It also reviews the methods used in SWOT studies which clarifies the inclusion of other techniques with the SWOT model.

The remaining sections of the paper begins with a description of the methodology used to collect, identify, and analyze the existing literature. Then, an overview of the historical process of SWOT and the SWOT matrix are explained, followed by a review of the procedures and methods used in SWOT studies. Next, the use of SWOT in the fields of general management, education, marketing and social media, healthcare, and agriculture is discussed. Finally, the conclusions and theoretical and managerial implications of the study are drawn.

Methods

Review Approach

As the current study aims to access, analyze, and synthesize the SWOT literature to provide an overview of the SWOT knowledge base, combine insights and perspectives from different fields, and expand on the theoretical foundation of SWOT, an integrative review method was deemed suitable (Snyder, 2019). According to Torracco (2005), integrative reviews are used to evaluate, critique, and combine the literature on a research topic in a way that enables new theoretical perspectives and frameworks to be developed. Building on this, this study adopted an integrative review approach as a research methodology. Based on Snyder’s (2019) suggestions, four phases

were adopted to conduct this literature review: (a) designing the review, (b) conducting the review, (c) conducting the analysis, and (d) writing up the review.

Review Process

Following prior reviews (Elwalda & Lu 2016; Gerpott, 2017; Gilal et al., 2019; Olanrewaju et al., 2020; Varnali, 2019), the following online databases were searched to provide a comprehensive bibliography: Emerald, Academic Search Premier, Scopes, ABI Inform, Taylor and Francis, Science Direct, and Business Source Premier. The following common keywords were identified: *Strengths, weaknesses, opportunities and threats analysis, SWOT analysis, SWOT model, SWOT framework, and strategic tool*. In addition, a *snowball* technique was employed, where citations from key studies retrieved in the first stage were reviewed. Finally, journal papers and conference proceedings were considered in our review. Notwithstanding the assumption that academic journals are the best sources of information, , conference proceedings were also included to ensure a comprehensive and complete view of SWOT analysis (Elwalda & Lu 2016). Furthermore, three factors served as selection criteria for this study: (a) these studies used a SWOT analysis; (b) these studies focused on the use of SWOT in the fields of general management, education, marketing and social media, healthcare, and agriculture; and (c) only studies published in English were considered.

SWOT: A Historical Process Overview

The SWOT analysis has gone through many developments since its use. First, SWOT originated in the early 1950s at Harvard Business School to analyze case studies by Harvard professors George Albert Smith Jr. and C Roland Christensen. They studied organizational strategies in relation to their environment (Balamuralikrishna & Dugger, 1995; Chang & Chow, 1999; Chermack & Kasshanna, 2007). Other scholars suggested that SWOT first originated in the 1960s by Albert Humphrey at Stanford Research Institute, who analyzed Fortune 500 companies, with the goal of developing a new system of change management and control (Madsen, 2016).

In 1963, a business policy conference was held at Harvard where the SWOT analysis was widely discussed and seen as a major advance in strategic thinking (Hill & Westbrook, 1997; King, 2004; Panagiotou, 2003). After the 1960s, the SWOT analysis was used by numerous researchers and scholars of strategic planning. In the 1980s, the SWOT analysis was extensively reintroduced (Hadighi & Mahdavi, 2011; Wernerfelt, 1984). Hoskisson et al. (1999) stated that SWOT had become a dominant framework in the field of strategic management in the 1990s.

Since then, and proving its validity and accuracy, the SWOT analysis has been used in many different fields and contexts; for instance, education, industry, and agriculture. Afterward, scholars combined the SWOT model with other techniques. The SWOT analysis has been used with the political, economic, sociological, technological, environmental, and legal (PESTEL) framework, analytic hierarchy process (AHP), and five forces model (Adem et al., 2018; Muzahidul et al., 2020; Wu, 2020). Such combinations have produced more accurate results and powerful strategic decisions.

Dyson (2004) claimed that the association between the SWOT analysis and different techniques indicates that SWOT is a flexible model that can be incorporated with newer approaches and

techniques. Therefore, the use of SWOT as a tool through which organizations evaluate their position in the market analysis can last for a long time.

The SWOT Matrix

A SWOT analysis is employed to assess aspects of business in terms of the strengths, weaknesses, opportunities, and threats (Jackson et al., 2003; Kim, 2005). SWOT recognizes the important internal and external aspects of attaining a business’s goals. The internal aspects refer to the features that are within the control of the business, whereas the external aspects are factors out of the businesses’ control (Bull et al., 2016; David et al., 2017; Hill & Westbrook, 1997; Lee & Ko, 2000; Shariatmadari et al., 2013). Based on a mix of strengths, weaknesses, opportunities, and threats analyses, the SWOT analysis can be used effectively to produce alternative options for a business (Lee & Ko, 2000; Valentin, 2001; Wang, 2007; Weihrich, 1982). Such techniques can clearly clarify how strengths and weaknesses can be matched with opportunities and threats. Based on the internal and external factors, managers can develop four strategies, these are SO (strengths - opportunities), ST (strengths - threats), WO (weakness - opportunities) and WT (weakness - threats) (Bayram & Üçüncü, 2016; David et al., 2019; Povilanskas & Labuz, 2012; Thomas et al., 2014; Usman & Murakami, 2011). According to Davis (2007), tools such as the external factors evaluation (EFE) matrix, the internal factors evaluation (IFE) matrix or the competitive profile matrix (CPM) can also construct the SWOT matrix.

The SWOT matrix can be summarized as follows:

- SO strategies: taking advantage of opportunities.
- ST strategies: avoiding threats.
- WO strategies: introducing new opportunities by reduction of weaknesses.
- WT strategies: avoid threats by minimizing weaknesses.

Figure 1. The SWOT Matrix

	Strengths	Weakness	
Opportunities/ Threats	SO	WO	External Factors
	ST	WT	
	Internal Factors		

SWOT is a convenient tool at the evaluation stage in order to gain an initial idea of possible future consequences. The SWOT analysis is a simple analysis method that can provides a realistic interpretation of the strengths and weaknesses of a business. As well as, it helps in having an overview of differences between the actual and future plan, and analyses the current competition situation (Armstrong, 1982; Robinson & Pearce, 1988). Moreover, SWOT analysis is very familiar, user friendly, and does not require computer systems or software (Beeho & Prentice, 1997).

Methods Used in SWOT Studies

The fundamental drive behind a SWOT analysis appears to be sound. According to Ghazinoory et al. (2011), the most SWOT studies are case studies employed in different industries, while few

papers are allocated to the methodological category and applied-methodological. Survey questionnaires are also widely used in SWOT studies (Dawes, 2002; Herdman et al., 2011; Hjermsstad et al., 2011; Preston & Colman, 2000). Dawes (2012) argued that a five-point scale items can improve SWOT findings and lead to a high level of reliability. Following this approach, the items were categorized on a scale of five-points and given weights according to their importance (Cinquini & Tenucci, 2010; Dawes, 2002; Dawes, 2012; Hartley & Betts, 2010). Coman and Ronen (2009) and Davenport and Beck (2002) claimed certain criteria should be followed for the evaluation of SWOT; these are concise, actionable, significant and trustworthy.

Furthermore, researchers have used other methods in combination with the SWOT method. For example, Muzahidul et al. (2020) investigated suitable strategies to revive the pottery industry in Bangladesh based on a combination of SWOT analysis and the AHP method. Similarly, Wu (2020) incorporated both the PESTEL framework and five forces model with SWOT analysis to analyze the international strategy, and the cost leadership strategy, of IKEA. Such incorporation can provide a comprehensive view of the business environment, as a SWOT analysis emphasizes mostly activities and actions that maybe taken internally by the business—whereas a PESTLE analysis recognizes external influences that are largely outside of the businesses control (Jadan, 2020). A five forces model, moreover, can be used to analyze the business's competitive environment employing five key factors: substitute products influence, a business's competitive rivals, suppliers, customers, and potential new market entrants (Wellner & Lakotta, 2020).

Adem et al., (2018), on the other hand, used a SWOT analysis and hesitant fuzzy linguistic sets to assess the occupational safety risks in the life cycle of a wind turbine. The incorporation of a SWOT analysis with other methods has provided accurate results in a wide range of contexts.

Qualitative and quantitative techniques have been combined with the SWOT model producing powerful strategic decisions such as utilizing analytic hierarchy process (AHP) in a SWOT model (Görener, 2012; Kahraman et al., 2007; Kurttila et al., 2000; Shrestha et al., 2004). This technique of incorporating the AHP in the SWOT model has been regarded as A'WOT (Ahlat, 2015; Kangas et al., 2001; Pesonen et al., 2001). Zaerpour et al. (2008) integrated both a fuzzy AHP (FAHP) and the SWOT model. They used this technique in a strategic decision-making structure to determine whether a particular product should be produced under a make-to-order (MTO) or make-to-stock (MTS) strategy. FAHP's connection to SWOT yields a novel hybrid method for the partitioning of MTO/MTS products. Ho (2008) studied a review of integrated analytic hierarchy process (AHP) and its applications with SWOT. Furthermore, Sevkli et al. (2012) integrated the analytic network process (ANP) with SWOT to implement and test the Turkish airline industry. Their results showed that the SWOT ANP is a viable and highly capable methodology that provides valuable insights for strategic management decisions in the Turkish airline industry, and can be used as an effective tool for other marketplace decision-making processes.

Arshadi-Khamseh and Fazayeli (2013), moreover, introduced a SWOT fuzzy ANP technique in which ambiguity and criteria effects for the distribution company are overcome. Their model was employed in a drug distribution company to find which strategy would be suitable for their case study in the drug distribution market and finally compared this method with other fuzzy and non-fuzzy multi-criteria decision making (MCDM) methods. They indicated that their proposed solution and technique would be suitable for problem-solving in any level of management. Many scholars have applied the AHP and ANP approaches with the SWOT model in their studies

(Alshomrani & Qamar, 2012; Arsić et al., 2017; Franek & Zmeškal, 2013; Grošelj & Stirn, 2015; Kurttila et al., 2000; Mehmood et al., 2014; Oreski, 2012; Shahabi et al., 2014; Shahhosseini et al., 2016; Shrestha et al., 2004; Zhao et al., 2016).

Using AHP and ANP methods can complete a SWOT analysis in a way that can bring insightful and accurate results. AHP and ANP methods consider the tangible and intangible measures in decision-making, providing an easy decision-making technique which can help businesses using a SWOT analysis. They can also be used for different purposes such as benefit and risk analysis and planning and effectiveness (Oguztimur, 2011). Furthermore, as a SWOT analysis evaluates a business's position in the market based on strengths, weaknesses, opportunities, and threats, AHP and ANP methods can complete SWOT by offering evaluations of experts and specialists from different backgrounds, generating different perspectives of the business's decision (Oguztimur, 2011)

SWOT Applications

A SWOT analysis is no doubt a valuable tool for strategic planning (Dickson, 2002; Glaister & Falshaw, 1999; Panagiotou, 2003; Valentin, 2001). It has been used in many different fields and contexts. According to the reviewed literature, however, these fields and contexts can be divided into five major areas, namely general management, academic and education, marketing and social media, health and healthcare, and agriculture. A discussion of each of these areas follows.

General Management

In a competitive environment, enterprises need to take advantage of any opportunity to optimize their business developments. A SWOT analysis is used more frequently than any other management technique. It helps managers to formulate competitive strategies in their business environments (De Boer et al., 2001; Dyson, 2004; Feglar et al., 2006; Ho et al., 2010; Kajanuset al., 2012). As there is a great degree of uncertainty, businesses may use SWOT analysis to determine the strengths, weaknesses, opportunities, and threats implicated in a project (Akhavan et al., 2015; Azimi et al., 2011; Görener, 2012).

Weihrich (1982) conducted the first application of SWOT analysis in the management and strategy formulation using the Volkswagen Company as a real-world example. A SWOT analysis has been used as a tool for strategic decision making and has been developed in various contexts (Catron et al., 2013; Hjermstad et al., 2011; Ip & Koo, 2004; Kajanuset al., 2012; Kangas et al., 2016; Leskinen et al., 2006; Shinno et al., 2006).

Many different techniques have been established to assess businesses and how they make strategic decisions. Such techniques can turn the data obtained from these studies into appropriate procedures for decision making (Agarwal et al., 2012; Capps & Glissmeyer, 2012; Frost, 2003; María Viedma Marti, 2004). Several strategy studies have presented strategic planning tools and techniques. Lisiński and Šaruckij (2006) in their study of principles of the application of strategic planning methods, presented 28 tools for strategic planning. Similarly, in their manager's guide to strategic planning tools, Webster et al. (1989) explained a set of 30 strategic planning tools and techniques. Nonetheless, the literature shows that the SWOT analysis is the most common tool used by businesses. Khan and Ali-Buarki (1992), for example, found that 22% of Bahraini

companies use SWOT analysis and financial analysis. Al Ghamdi (2005) studied the importance of strategic planning tools in Saudi Arabian businesses. He pointed out that 10% of businesses use such tools frequently. One of the most frequently used tools was a SWOT analysis. On the other hand, the less often-used tools were value chain analysis, Porter's five force analysis portfolio analysis, Delphi, and cognitive mapping. Elbanna (2007) claimed that the most frequently used techniques by businesses in Egypt are SWOT analysis, benchmarking, and pro forma financial statements; whereas the less frequently-used techniques by businesses in Egypt are value chain analysis, Porter's five forces analysis, experience curve analysis and cognitive mapping. Gunn and Williams (2007) found that SWOT, benchmarking, and critical success factor analysis are the most-used tools in the United Kingdom. Finally, Evans & Wright (2009) claimed that a SWOT analysis remains one of the most helpful techniques for strategic planning, as it delivers a rich and strong statement of a business' strategic position (Evans & Wright, 2009).

Education

During the past decade, higher education has witnessed dramatic technological, demographic, and financial changes (Sharifi, 2012). Discovered behind these changes reshaping the role of universities in today's world were globalization, advances in IT and learning technology, and access to government funds (Živković et al., 2015). The result of this change created a number of problems (Akhavan-Kazemi, 2005). As a result, many scholars have used SWOT analyses to address these issues and to conduct strategic planning in the higher education sector.

In academia, SWOT has become established more in the United States compared to other countries. Many universities in the United States such as California State University, Montana State University, Iowa State University, and Ball State University, have employed a SWOT analysis to evaluate their position in the academic market (Balamuralikrishna & Dugger, 1995; Helms & Nixon, 2010). A similar approach was also applied in Romania in various universities such as Babes Bolyai University, Bucharest Academy of Economic Studies, Petre Andrei University of Iasi, and others (Ardelean et al., 2015).

Furthermore, the SWOT matrix was employed to analyze the different factors prior to implementing an e-learning solution in Libyan Universities (Kenan et al. 2014). The authors claimed that a number of universities have managed to successfully implement e-learning systems despite the drawbacks faced due to the economic, political, and social difficulties in Libya. The model analyses the actual stage of e-learning implementation in several Libyan Universities to propose recommendations for improvement and to guide the implementation team towards the correct approach to e-learning in Libyan Higher Education institutions.

Sharma and Singh (2010) studied a comparative SWOT analysis to understand the pattern of development of information and communication technologies (ICT) within six universities in India. Their findings were along the lines of those of the National Accreditation and Assessment Committee (NAAC), an autonomous body of the University Grants Commission concerning regular multi-faculty universities. They stated that information and communications technology activities have a significant role in the achievement of increased quality in the higher education systems.

Furthermore, Sharifi (2012) used descriptive statistics and the SWOT model to identify and analyze the current position in the humanities of education using internal and external analysis. In addition, many published teaching cases directed students to use SWOT analysis to develop new approaches in their projects (Elrod, 2008; Joshi et al., 2020; Sale, 2007; Stotler, 2008; Wayne et al., 2005; Xie & Lin, 2008). In conclusion, the literature shows that the market for higher education will continue to grow (UNESCO, 2007). This will demand expansion and innovation from institutions around the world, especially in regions like Asia, South America, and Africa. Rios (2013) argued for the use of SWOT analysis as imperative for such institutions to embrace change.

Marketing and Social Media

Firms work in a competitive environment where they are always in need of accurate information about their own business as well as the competitors to maintain their position in the market. Strategic management has been widely used by many companies to withstand market competition. Businesses seek to market opportunities that generate values and identify any threats through the analysis of internal strengths and weaknesses, followed by the investigation of the external opportunities and threats (Coman & Ronen, 2009). A SWOT analysis is one of the best tools to develop marketing strategies in a way that will drive optimal business growth and profits (Novicevic et al., 2004). An analysis of external threats and opportunities' analysis can be employed to assess whether a business can avoid threats and seize opportunities (Piercy & Giles, 1989). Conversely, internal an analysis of strengths and weaknesses assesses how a business carries out its internal work (Ghazinoory et al., 2011; Hill & Westbrook, 1997).

Glaister & Falshaw (1999) contend that a SWOT analysis is a valued tool in strategic marketing planning. A SWOT analysis is a half-way house between strategic planning and marketing intelligence which can assist in choosing the appropriate strategies among alternatives. Marketing intelligence delivers inputs to the SWOT model that can be studied and then applied to strategic decision-making (Bose, 2008). Curry (1996) pointed out that a SWOT analysis can perform as a tool by which qualitative and quantitative aspects of a decision are connected and, consequently, enhance the strategic marketing planning.

Chang and Huang (2006) applied a quantified SWOT analysis in seven container ports in East Asia. Their aim was to assess the competing strength of each port and then suggest an adoptable competing strategy for each.

From a competitive knowledge perspective, Brooks, Heffner, and Henderson (2014) used a SWOT model to assess the use of social media in business. Their results highlighted the importance of social media in developing competitive knowledge. Social media was also employed to examine the business's communication. Rutsaert et al. (2014), employing in-depth interviews and a SWOT analysis of social media, found a significant role of social media in communicating risks and benefits.

By incorporating a SWOT analysis with a balanced scorecard (BSC), firms can improve their opportunities within the market and balance their strengths against the weaknesses of their competitors (Lee & Ko, 2000). Lee and Ko (2000) used the SWOT matrix with the BSC in market competition, developing a holistic strategic management system. They indicated that the SWOT analysis is a structural method used to identify the critical success factors that can be implemented

in a scorecard instead of identifying key performance indicators (KPI) via the four main perspectives of the BSC.

McGrail and Roberts (2005) used a SWOT analysis to study the worldwide cable television market. They evaluated the environment, value chain analysis for the core activities, and a Boston consulting group product matrix to assess products offered by the industry. They found four forces emerged that have impacted the industry, yet have resulted in few modified strategies. Schwery and Raurich (2004) studied new technologies within the hydraulic power generation business. The use of a SWOT analysis revealed that the technology push was appropriate in specified market segments. Lin et al. (2004) investigated Internet marketing in Taiwan. Based on interviews of 137 professionals from nine firms, Lin et al. (2004) identified six critical success factors that were disseminated to Internet market projects.

Healthcare

Since 1991, the SWOT model has been used in healthcare to evaluate home health agency, health staff, and public health (Anish et al., 2017; Ebrahim et al., 2017; Lane et al., 2008; Lanzotti, 1991; Thira & Patarawan, 2012; Varga, 2015; Wazir et al., 2013). The SWOT model has been used in healthcare to enhance performance and service quality; and therefore, is considered an effective tool in the healthcare sector (Arshad et al., 2017, 2018; Pery & Isworo, 2018).

The first use of a SWOT analysis in health risk assessment in terms of optimistic and pessimistic items was conducted by Dutta (2018) in India. In Indonesia, a SWOT analysis was employed utilizing six variables to enhance the performance of Ngaliyan Health Center (Melani et al., 2018). These variables are called the *6M*, referring to market, money, material, men, machine, and method (Melani et al., 2018). In Pakistan, a SWOT analysis was used for integrating the World Health Organization (WHO) patient safety curriculum into undergraduate medical education (Misbah & Mahboob, 2017).

Finally, the SWOT model was demonstrated in multiple studies and shown to be an effective tool in the healthcare sector; enabling health professionals to contribute to the analysis of healthcare sector development (Alappat et al., 2007; Casebeer, 1993; Giusti et al., 2020; Kahveci & Meads, 2008; Pipas, 2020; Sharma & Bhatia, 1996; Toivanen et al., 1999).

Agriculture

The review of the SWOT literature shows that Faesel and Hill (1995) were the first to use SWOT analysis in the agricultural field. They found that because of the weak infrastructure in Poland, the development of the food business was hard. Since Faesel and Hill's (1995) work, many studies utilizing a SWOT analysis have been published in the agricultural sector, particularly in developing countries.

Furthermore, completing a SWOT analysis of a farm business is the first step in strategic planning. The process should help farmers identify areas where their strengths and opportunities align with a high probability of success. Conversely, the process of conducting a SWOT analysis will also identify combinations of weaknesses and threats (Zoller & Bruynis, 2007).

Ommani (2011a) applied the SWOT technique to clarify strengths, weaknesses, opportunities, and threats to rural areas in Iran. The results of the SWOT analysis indicated important strategies for rural development; including using new technology to increase productivity, planting new crops with high economic value, and developing agricultural policies for increased productivity in poor farmers' practices. Likewise, in rural areas, a SWOT analysis was used by wheat farmers to identify strategies for agricultural development, especially in farming systems. The study revealed that strategies for farming system management were prioritized and included developing poor local market opportunities and infrastructure, planting of crops with high economic value, considering the quality of crops, considering farm sustainability indexes, and using sustainable water resource management (Ommani, 2011b).

Additionally, Diamantopoulou and Voudouris (2008) studied the water resources management strategy of Zakynthos Island in Greece using SWOT analysis. They noted that Zakynthos Island is solely dependent on groundwater resources for its water supply and the pressures on these are agricultural development, climatic changes, environmental needs, and lack of rational management. Their SWOT analysis concluded that water-saving techniques such as drip irrigation should be applied to decrease the quantities of groundwater used for agriculture.

In the field of horticulture, a SWOT analysis was applied to the farms in the Plovdiv region of Bulgaria (Garnevska et al., 2007). The authors demonstrated that the main perceived strengths were ownership of machinery, cultivating crops, and previous experience, whereas the most notable threats embraced the collapse of the communist system, the resulting process of transition towards a free-market economy, and the process of accession to the European Union (EU). The main opportunities identified by the farmers were developing new products and land expansion. The same research was also performed in Greece to investigate alternative farm enterprises and their strategies (Damianos & Skuras, 1996), in New Zealand to assess farmers' behavior (Cary & Wilkinson, 1997), in Indonesia to gain Robusta coffee bean development strategy in Panti District, Jember Regency (Kasutjianingati et al., 2019), and in Indonesia to increase cooperation between farmers (Wardhono & Wibowo, 2019). Likewise, in Alborz province Iran, a SWOT analysis was employed to analyze effective horticultural factors (Feili et al., 2018).

Recently, the use of SWOT analysis has been debated in urban planning. For example, the SWOT analysis was employed to examine the feasibility of the cultivation of fruit-bearing shrubs and trees. One of the main strategies valid for urban agriculture development in developing countries is the use of germplasms of native fruit trees with low water requirements (Kazemia et al., 2018).

Sugiarto (2017) studied the strategic potential of the vermicompost agribusiness in the Kermanshah Province of Iran. Through semi-structured, in-person interviews, vermicompost practitioners were surveyed to determine the strengths, weaknesses, opportunities, and threats of this emerging technology. The results carry useful implications for agricultural policy makers, and for farmers who are seeking diversified sources of income. In addition, in China researchers studied innovations in financial services to drive the brand development of agricultural products in Jilin Province through a SWOT analysis of the brand development of agricultural products (Zhang et al., 2019).

Conclusions

Using an integrative approach, this study reviewed the literature on SWOT in five major fields, including general management, academia and education, marketing and social media, healthcare, and agriculture. It also critically reviewed and discussed the procedure used in SWOT studies in which the inclusion of other methods with SWOT was explained. Key research papers using SWOT analysis in different contexts are summarized in Table 1.

Table 1. Key Papers Using SWOT Analysis in Different Contexts

Area	Article	Authors, Year	Context
General Management	The TOWS matrix—A tool for situational analysis	Wehrich, 1982	Management and Strategy Formulation
	The use of strategic planning tools and techniques in Saudi Arabia: An empirical study	Al Ghamdi, 2005	Strategic Planning Tools and Techniques
	How to conduct a SWOT analysis	Evans & Wright, 2009	Strategic Planning Process
Education	Trends and policy issues for the e-learning implementation in Libyan universities	Kenan et al., 2014	e-Learning Solution
	ICT in universities of the Western Himalayan Region of India II: A comparative SWOT analysis	Sharma & Singh, 2010	Development of Information and Communication Technologies (ICT)
	Islamic Azad University function analysis with using the SWOT model in order to provide strategic guidelines (Case study: Faculty of humanities)	Sharifi, 2012	Internal and External Environments of the Academic Year
	Strayer education, incorporated: An equity valuation	Stotler, 2008	Developing New Strategies in Students Projects
Marketing	Dual-perspective SWOT: A synthesis of marketing intelligence and planning	Novicevic, et al., 2004	Developing Marketing Strategies
	Competitive intelligence process and tools for intelligence analysis	Bose, 2008	Strategic Decision Making
	Internet market segmentation—an exploratory study of critical success factors	Lin et al., 2004	Success Factors in Internet Marketing
Health and Healthcare	Human health risk assessment under uncertain environment and its SWOT analysis	Dutta, 2018	Health Risk Assessment
	A synthesis on swot analysis of public sector healthcare knowledge management information systems in Pakistan	Arshad et al., 2017	Performance and Service Quality of Healthcare Organizations
	Applicability of SWOT analysis for measuring quality of public oral health services as perceived by adult patients in Finland	Toivanen et al., 1999	Analysis and Implementation of Healthcare Improvement
Agriculture	Optimization of water resources management using SWOT analysis: The case of Zakynthos Island, Ionian Sea, Greece	Diamantopoulou & Voudouris, 2008	Water-saving Techniques
	Farm business and the development of alternative farm enterprises: An empirical analysis in Greece	Damianos & Skuras, 1996	Alternative Farm Enterprises and Strategies
	Institutional arrangement of agriculture development in Indonesia: Lesson learn from Korea through 6th order of industrial agriculture system	Wardhono & Wibowo, 2020	Cooperation Between Farmers
	Research on the strategic choice of brand development of agricultural products in Jilin province driven by financial service innovation	Zhang et al., 2020	Brand Development of Agricultural Products

Based on the literature reviewed, the following key conclusions were reached:

- SWOT analysis is an effective strategic tool that can be used efficiently and resourcefully to assess the strengths, weaknesses, opportunities, and threats of businesses.
- It is highly plausible that SWOT analysis will endure gaining more attention in the future as it has endured to become one of the key sources of information for strategic planning. The literature has also shown that managers can use SWOT to effectively overcome their businesses' threats, and easily identify the core competencies of the businesses.

- The use of SWOT analysis with other techniques such as analytic hierarchy process (AHP), the PESTEL (political, economic, sociological, technological, legal, and environmental) framework and the five forces model can bring results that are more beneficial to businesses.
- The reviewed literature also revealed that the use of SWOT analysis in some fields is more common than in others. For example, the use of SWOT analysis in healthcare and marketing is used much more often than in agriculture.

Theoretical and Managerial Implications

The present study offers a number of contributions to both theory and practice. To the authors' knowledge, this review is the first to assess, analyze, and synthesize the SWOT literature in five different fields, providing new theoretical perspectives on SWOT analysis. The present study thus contributes to the literature in two important ways. First, this study fills the knowledge gap in the strategic planning context by comprehensively reviewing the SWOT literature conducted over the last 60 years. Additionally, we offered an entirely new collective perspective of SWOT analysis as a strategic tool, assessing the four aspects of businesses (strengths, weaknesses, opportunities, and threats) as it critically discussed the use of SWOT in five major different fields.

Furthermore, this study suggests several meaningful implications for managers that can help improve their strategic decisions. Initially, with regard to the general managerial implications, the study demonstrates that SWOT analysis is an effective tool for strategic planning, and can be used in different contexts in which businesses' strengths, weaknesses, opportunities, and threats can be effectively evaluated. Second, this study shows that SWOT analysis can be productively integrated with other techniques. Managers, therefore, can incorporate the SWOT model with other methods such as AHP, the PESTEL framework, the five forces model and fuzzy ANP, by which more accurate and beneficial results can be obtained. Besides, the results obtained from different contexts revealed that SWOT analysis is an important source of information. Hence, businesses may regularly conduct SWOT analysis, providing a continuous flow of information or strategic planning.

Limitations and Future Research

Even though this review provided a new integrative, comprehensive, and synthesized view of the literature published on the SWOT model, it has limitations. As the aim of this study was to provide an overview of the SWOT knowledge base and combine insights and perspectives from different fields, an integrative review approach was believed to be appropriate, and was accordingly adopted. Future studies may employ other approaches assessing the SWOT literature, for instance, with systematic and semi-systematic review approaches. Also, the concern of this study was the use of SWOT in various major fields including general management, education, marketing and social media, healthcare, and agriculture. However, other contexts are no less important; therefore, future research might choose to investigate the use of SWOT models in other contexts. Finally, future research might also examine the inclusion of other variables and techniques with the SWOT model.

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