

ORIGINS OF SWOT ANALYSIS

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INTRODUCTION

SWOT (Strengths, Weaknesses, Opportunities and Threats) Analysis is one of the most popular strategy tools worldwide (Bell and Rochford, 2016; Gunn and Williams, 2007; Knott, 2008; Qehaja et al., 2017; Rigby and Bilodeau, 2018; Vuorinen et al., 2018). In academic circles, however, SWOT (Analysis, Approach, Framework, Matrix or Model) has often been criticized (Everett, 2014; Glaister and Falshaw, 1999; Haberberg, 2000), with catchy titles like *SWOT Analysis: It's Time for a Product Recall* (Hill and Westbrook, 1997), *Away With SWOT Analysis: Use Defensive/Offensive Evaluation Instead* (Valentin, 2005), and *Swatting at SWOT* (Meyer et al., 2016). None of these publications has ever reflected on SWOT's origins and the context in which it was created. The three published literature reviews (Ghazinoory et al., 2011; Helms and Nixon, 2010; Madsen, 2016) and the unpublished literature review by Meeks (2015) on SWOT don't yield any historical account either. Most authors have simply accepted that "there is no documented history of SWOT" (Friesner, 2011: 3). By presenting the results of a historical inquiry, this paper presents evidence to the contrary. We aim to show how valuable SWOT's beginnings have been for the field of Long-Range Planning as a whole so that these origins may even enrich the Opening Strategy movement to date.

While our efforts were initially directed at systematically reviewing the published SWOT literature from an evidence-based perspective (Rousseau & Gunia, 2016: 18), we managed to dig up new material about the origins of SWOT. Our initial approach then evolved into history-informed strategy research (Argyres et al., 2020). We perused relevant grey texts, various archival records and held interviews with knowledgeable experts with firsthand knowledge. The conclusion is that the original SWOT Analysis is not an "a-theoretical classificatory framework" (Grant, 2008: 276), but part of a design type of strategy theory. In tracing SWOT's birth and early development, we discovered the initial purpose of SWOT and by whom it was designed and used between 1965 - 1972. In the below, we will first describe our methodological approach and then the emergence of SWOT amidst the Holistic School of Strategic Management. SWOT's pedigree can be traced back to a Californian-based group of Long-Range Planning pioneers (located in what is now Silicon Valley) who were much in demand by the leading corporations at the time (1965 – 1972). The Discussion section contains suggestions for future SWOT research.

Such further research is definitely needed, because SWOT's momentous current use in practice - as a generic future-forming scheme - extends beyond the academic fields of Strategy and Management alike.

METHODS

A first goal of this study was to comprehensively identify, appraise, and synthesize all the relevant publications on SWOT Analysis (Petticrew and Roberts, 2012: 19). To retrieve relevant scholarly articles, we scanned both Business Premium Collection (ProQuest) and Business Source Ultimate (EBSCO). This traditional search strategy gave us a sense of incompleteness. Electronic databases could not identify the original written source of SWOT. Therefore, subject librarians were approached to find out if and how more relevant data could be located. We also turned to relevant historical sources, like public and private archives, organizational data, and other relevant facts and figures (Kipping & Üsdiken, 2014; Leblebici, 2014).

Upon reading the *SWOT Analysis for Management Consulting* article (Humphrey, 2005: 7), which was published in the Stanford Research Institute (SRI) alumni newsletter, we came in contact with Dr. Don Nielson, retired vice president of SRI International. He shared a copy of his personal email archive, including source materials used for chapter 14 *Business Consulting and Development* in his book *A Heritage of Innovation – SRI's First Half Century* (Nielson, 2005). Dr. Nielson also sent us a copy of the Long Range Planning Service (LRPS) report No. 250 *Formal Planning - The Staff Planner's Role at Start-Up* (Stewart, Benepe, & Mitchell, 1965) and referred to a private archive on SRI's Theory and Practice of Planning (TAPP) research group. The content of this archive complemented our reconstruction of the history of SRI's TAPP research group in general and the development of the so-called SOFT Approach in particular.

Relevant conference material designed by the SRI TAPP research group was complemented with information from corporate, private and public library archives. Pertinent background information about the Lockheed Aircraft Corporation Development Planning Department was gathered from the Lennard Eugene Root Papers (1923 - 1983) and the *Managerial Long-Range Planning* book (Steiner, 1963).

1952-1962: The Holistic School of Strategic Management

What we see as the origins of SWOT begins in the early 1950s. The Lockheed Aircraft Corporation was pioneering one of the world's first formal Long-Range Planning systems (Hibbart & Root, 1956: 8) with an entrepreneurial character (Drucker, 1954) via its Development Planning Department.

The Lockheed Aircraft Corporation put together its first corporate development planning department in 1952, and recruited corporate planning experts, many from governmental and military think-tanks (e.g., RAND). Robert Gross, CEO of Lockheed Aircraft Corporation, appointed L. Eugene Root as the first director of Corporate Development Planning. He had set up corporate planning at the Pentagon. Soon afterwards, psychologist and industrial engineer Robert Franklin Stewart was appointed as his assistant director (Stewart & Lipp, 1963: 261), responsible for putting Lockheed's first long-range master plan in motion (Lockheed Master Plan I – LMP I) (Hibbart & Root, 1956: 8; Root & Steiner, 1964: 239). Dr. George A. Steiner, an economist, arrived at Lockheed in 1954, where he met Stewart, the development planning specialist at the time (Stanford Research Institute, 1962: 315; Steiner and Humphrey, 1982: 1). Stewart's interests in psychology and behavioral theories, together with his practical experience

in planning complemented Steiner's more academic approach. When they discussed the methods and concepts behind Lockheed's master plans, Stewart could immediately add "the right questions to which management must give attention" (Root & Steiner, 1964: 253).

Stewart needed additional manpower at Lockheed for the development of the merger and acquisitions strategies in its diversification unit. Upon Steiner's suggestion, Dr. H. Igor Ansoff, who worked as a project manager on technology and weapon systems acquisition for the U.S. Airforce (Ansoff, 1992: 9), was recruited (Steiner & Humphrey, 1982: 2) to help out. During his first year at Lockheed in 1957, Ansoff learned about LMP I & II and was tutored by Stewart on their system for developmental planning. In December 1957, Ansoff published his first paper on diversification, introducing a method for measuring the profit potential of alternative product-market strategies (Ansoff, 1957). In 1959, Root became group vice president of Lockheed's propulsion, electronic and missiles division and, in 1961, Ansoff relocated to New Jersey to head one of his own recommended diversification efforts: Lockheed Electronics Company Metuchen (Ansoff, 1992; Root & Steiner, 1963).

Years later, Ansoff wrote that he considered himself a 40-year-long card carrying member of the Holistic School of Strategic Management (Ansoff, 1991: 449 and 452). His book *Corporate Strategy – An Analytical Approach to Business Policy for Growth and Expansion* (Ansoff, 1965) is a codification of his practical experience learned at Lockheed (Ansoff, 1965, 1991). After a few informal conversations with friends at the SRI staff, Stewart left Lockheed, after his working relationship with his new boss, Dr. James E. Lipp became strained. Stewart moved to SRI in 1962 to head the SRI's TAPP research group (Royce, 1985; Steiner, 1963).

1962-1972: Stewart's Ideas on Strategic Planning

Stewart designed the so-called "SRI System of Plans" as a frame of reference for business planning: published as LRPS report no. 162 *A Framework for Business Planning* (Stewart, 1963). In it, he describes "the total planning job", its hierarchical relationships and suggests the creation of processes for developing two type of plans: corporate and operations. Corporate or strategic plans are the concern of the top echelon of management, those who plot the long-range, overall destination of the firm (Stewart, 1961: 7). The operations plan had to correspond quite tightly to the strategic plan, and it was for this coupling that the precursor to SWOT, SOFT, had to be used. Top managers did not have to use it themselves; The TAPP research group had observed important changes in a firm's planning process: Even though, traditionally, the business leader was responsible for, and able to do, most of the "thinking about the future of the firm" (Stewart & Lipp, 1963: 260), the increasing size and complexity of doing business, plus the rapid changes in the environment, forced the chief decision maker to seek help from others in assembling and analyzing pertinent information. A more participative or co-creative corporate planning regime enabled the firm to select and shape the environments in which it would operate. "Firms were not waiting anymore for an opportunity to knock on their doors" (Stewart, 1967: 2; Stewart, Humphrey, & Smith, 1965). Therefore, the formulation of corporate strategic plans became reliant on knowledge about *threats* and *opportunities* derived from outside influences on the firm: on top of the *strengths* and *weaknesses* of its internal capabilities and limitations (Stewart et al., 1963: 17). As a consequence, instead of traditionally being the sole producer of strategies, the chief executive became the manager of their production (Stewart et al., 1963: 2). Sharing planning responsibilities meant to Stewart that a system must be in place that divides the planning process into manageable tasks with a clear division of roles.

The “system must assure that information of many kinds and from many sources flows together into intelligent ideas regarding what the firm can and should do” (Stewart, 1967: 2).

Stakeholders as Integral Part of SWOT's Heritage

A cornerstone of Stewart's strategy-making ideas at SRI was the so-called cause and effect chain or “chain of reasoning” (Stewart et al, 1965a, 1966: 2). Before the emergence of a written corporate strategic plan, a chief executive and his top management team had to make an analysis of whether or not a company's current business and planned new ventures would hold up against the long term growth objectives. This process began with appointing staff planners who were instructed to identify first the corporate values coming about through the willing interaction between employees, customers, owners, suppliers, lenders and society. These groups of people were called Stakeholders (Freeman & Reed, 1983: 1; Stewart et al., 1963: 5). According to Stewart, it was TAPP's research analyst Marian Olsen Doscher who coined the term late 1962, when the TAPP team were writing LRPS report No. 168 *The Strategic Plan* (Royce, 1999: 2). Stewart noted that a reconciliation of stakeholders' values with the firm's own internal assessment of its present and future environment is necessary to decide how far the firm can go in satisfying its stakeholders' wishes (Stewart et al., 1963: 5). SWOT, or rather its precursor, SOFT, was used to conduct this *internal operational assessment*; in the below, we will note how this internal inquiry was to be done.

Stewart's Twin Publications on Planning and SOFT

In 1964, SRI received approximately 800 responses to a survey to gain insights into the problems faced by staff planners. “About 40% of these responses dealt with the beginning planner's professional grasp of planning techniques, processes, and requirements” (Stewart, Doscher, & Mitchell, 1964: 3). This was the inspiration for Stewart's first publication on this subject: LRPS report No. 220 *Formal Planning – The Executive's Role* (Stewart et al., 1964). In 1965, the second LRPS report, No. 250 *Formal Planning – The Staff Planners Role at Start-Up* (Stewart et al., 1965) was published, as a twin publication. In this second report, Stewart depicted extensively how staff planners were to aid top management in their process of corporate planning.

According to Stewart, the “provisional strategic plan” had to be created by the staff planner that had to be based, in part, on an analysis of operational planning issues, to be identified through the SOFT Approach. Later, the hence collected set of operational issues of the firm had to be grouped in families of planning issues. Each staff planner had then “... to assemble the pieces of obtainable knowledge into a cohesive, valid chain of reasoning” (Stewart, 1971; Stewart, 1966b; Wheelwright, 1971: 54). About the internal SOFT Approach, in 1965 Stewart wrote: “For each functional area in the firm, the gathered data was felt to be best compiled by organizing them in four (SOFT) questions:

1. What must be done to *safeguard* the *satisfactory* in present operations?
2. What must be done to *open* the door to *opportunities* in future operations?
3. What must be done to *fix* the cause of *faults* of present operations?
4. What must be done to *thwart*, ameliorate or avert the *threats* to future operations?”
(Stewart et al., 1965: 18; the bold and italic print in the above is ours).

Detailed instructions for this SOFT Approach can be found in SRI's Business Executive seminar materials¹ (Stewart et al., 1965). Managers received forms to identify planning issues: on average 8. Every planning issue needed to be classified and argued by them as a Strength or a Fault, in the present, or an Opportunity or Threat, in the future. Stewart argued, furthermore, that "integrating patterns" (Stewart, 1964), such as systems, organization and procedures, would enable many actors with diverse skill sets to contribute to a complex, yet cohesive, chain of reasoning as a precursor to a final corporate strategic plan. These ideas were all shared with corporate staff planners and executives during SRI's numerous Business Executive Seminars. We estimate that more than 100 of these types of seminars took place.

TAPP's 6 years of Outreach

On July the 26th, 1965, the TAPP research group launched its first 2 week-long executive seminar in business planning, in Rickey's Hyatt House in Palo Alto, with the purpose of training client companies' senior executives and company planners in *how to plan*. Ultimately, between 1965 and 1971, the TAPP research group hosted seminars in corporate planning, which were then compressed to 5 and a half day seminars, for a total of 1,100 CEO's and their chief planning officers (Nielson, 2005; Royce, 1985: 21). SRI also held annual client conferences in that period which attracted an estimated 300-500 clients to the San Francisco bay area (Nielson, 2005). By the end of 1971, executives from over 500 companies had attended the seminars and the series of research reports for LRPS had been almost completed. In SRI's LRPS report no. 448 *Setting Corporate Aims* (Stewart, 1971), Stewart revisited his original agenda for research, developed at Lockheed and further evolved at SRI, which called for systematizing the body of knowledge related to corporate planning.

According to Royce (2001), "between 1961 and 1970 Robert F. Stewart was the unquestioned 'guru of business planning', not only at SRI but worldwide. He was often called on to make presentations at professional society meetings, usually overbooked as a consultant to individual companies in Europe as in North America". Things began to change in the early seventies and SRI's formal planning business went into decline; SRI's subscription service to its TAPP reports had gone stale. After having a difference of opinion with his bosses as to what he should do next, Stewart completed his capstone LRPS report no. 448 in 1971 and went into semi-retirement (Royce, 1985: 24). The TAPP research group also dissolved in 1971. The core group members went into private consulting around the world and SRI's corporate planning research and development business declined. In 1972, the last LRPS report no. 474 *Divestment Planning* (Stewart, 1972) was published posthumously after Stewart's death that year. Many of the reports on SRI's research developments had been leaked by clients to journals and industry publications or quoted in speeches (Royce, 1985).

DISCUSSION

In search of the early history of SWOT, we rediscovered one of the earliest corporate planning frameworks. The responsibility and direction of the research and development of this framework can be credited to Robert Franklin Stewart. Although the framework in which it was embedded had several contributors, Stewart was the leading instigator while pioneering Long-Range Planning. His contributions are foundational to the field of strategy as a whole.

In SRI's Long Range Planning Report No. 250, entitled *The Staff Planner's Role at Start-Up* (Stewart et al., 1965), Stewart conceived of the SOFT Approach, the forerunner of SWOT Analysis. This SOFT/SWOT Approach enables a staff planner to gather the views of operational managers on their own present issues and objectives from which this planner then created a summary for the purpose of possibly new corporate objectives.

This SWOT part of the staff planners' task is a form of participative aim-setting, as suggested by Stewart; its routine or practice provides firms with the ability to select and shape the environments in which they operate, having incorporated well-structured bottom-up information flows. The fact that SOFT/SWOT is associated with forward looking operational firm matters, requiring well-structured bottom-up information streams within companies, is something that was unknown about SWOT to date.

The SWOT Analysis could be applied nowadays as "a framework for categorizing different factors influencing the strategy" (Grant, 2008: 279). It used to be part of a larger corporate planning framework based on what we now would call: design theory, scientific method and evidence. Robert F. Stewart was its main author and driving force while SOFT/SWOT was embedded in his holistic or earliest design theory of corporate planning. In his view, corporate strategy had to meet an increasing number of internal and external challenges. Logical reasoning and extrapolation are not enough to tackle these challenges. Stewart argued therefore as well that corporate planning must make use of the creativity of stakeholders' values and motivations.

It turns out that Stakeholder Analysis shares its intellectual origins with the SWOT Analysis (or its original name: SOFT Approach) in Stewart's logical chain of reasoning. Until now, this shared intellectual origins is, to our knowledge, not previously mentioned in the (management) literature.

Consulting academics and practitioners from big consultancy firms (e.g., Arthur D. Little, Booz Allen & Hamilton, Ernst & Ernst, McKinsey & Company, Urwick Orr & Partners, etc.) gained access to SRI's Executive Seminar materials (Humphrey, 2005; Lie, 1964; Stanford Research Institute, 1970) and made their own adaptations of its content for their clients, often without referring to the original SRI/TAPP/LRPS sources.

Future research should first address the ways in which SWOT has developed from the early seventies until today within academia, including (higher) education, also far beyond the Strategy field. Secondly, an inquiry is warranted into the roles that academic journals played, and related outlets, as well as key authors who referred to SWOT. Thirdly, it would be interesting to explore why SWOT is still part-and-parcel of present day strategy textbooks (Whittington, 2019). A related question is: how the origins of SWOT, as an - in essence -, intra-firm type of bottom-up informational tool for managers, might be useful in the context of the recent Opening Strategy movement. Also, given the many publications that show SWOT's use beyond the fields of Strategy or Management, one could ask: How come SWOT has become a generic forward-forming 'tool for thought', worldwide? Finally, we should revisit how strategy tools can bridge both "logical reasoning" and strategic "creativity". With Robert Franklin Stewart's untimely death in 1972, the research agenda for strategic creativity withered, not only for him but for the field of Strategy at large.

REFERENCES AVAILABLE FROM THE AUTHORS