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STRATEGIC PLANNING AND TAX

W. Robert Smith, The University of Southern Mississippi
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ABSTRACT

In response to recent economic conditions, many businesses focused on cost minimization and, in the process, may have abandoned organizational values and goals. Although the urge to slash costs during economic downturns is understandable, research suggests that such behavior is often unsuccessful and that good strategic planning practices are likely to produce better results. Periods of financial stress highlight the importance of bringing to the strategic planning process all the technical expertise and wisdom an organization can muster. Integrating tax into the overall strategic planning process increases the likelihood that an organization will find successful strategies. As an illustration of a strategic planning process that makes use of tax resources to accomplish broader organizational goals, we describe a tax strategy and outline a bifurcated approach to tax strategy identification, evaluation, selection, implementation, and maintenance in the context of an overall strategic planning process.

LOCATION DECISION MAKING FOR ECO-INDUSTRIAL PARKS IN NONMETROPOLITAN ILLINOIS: THE USE OF STOCHASTIC INPUT-OUTPUT MODEL AS DECISION AID

Adee Athiyaman, Western Illinois University

ABSTRACT

This paper presents a statistical tool that could aid in location decision making for eco-industrial parks. Sixty-six nonmetropolitan counties in Illinois were assessed for their structural correlates relevant for locating eco-industrial parks. The product-portfolio analysis was used to visualize the structural facets of the counties. Data inputs to the portfolio analysis were derived from a stochastic input-output model for scrap, used and second hand goods (input-output transactions table code 0002). Results of the portfolio analyses suggest that Coles County would be an ideal location for developing an eco-industrial park.

USE OF CREDIT CHECKS IN EMPLOYEE SELECTION

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ABSTRACT

A large number of U.S. employers use credit checks in making employee selection decisions. A recent Society for Human Resource Management (SHRM) study reported that 47 percent of respondents only use credit background checks for job candidates in certain types of positions, for example, job candidates for positions with fiduciary and financial responsibilities (SHRM, 2010). Thirteen percent of those surveyed conduct credit checks on all candidates while 40 percent of the respondents in the SHRM study reported that they did not utilize credit checks on any job candidates (SHRM, 2010). In recent years, a broad coalition of opposition to their use has surfaced. The coalition includes advocacy groups like the Lawyers' Committee for Civil Rights Under the Law, the U.S. Equal Employment Opportunity Commission (EEOC), state legislatures, and the U.S. Congress (Maurer, 2010). The purpose of this paper is to examine the use of credit checks by employers in making employee selection decisions, the recent efforts to regulate employer use of credit histories in employee selection decisions, and the policy and practice issues for employers.

INTRODUCTION

Employers utilize a variety of tools to examine job applicants and candidates for promotion in making their decisions. Employers will typically contact references, verify educational or professional history, obtain a report on an individual's criminal history, and in certain situations, obtain a report on an individual's credit history (SHRM, 2010). The use of credit checks has come under increased scrutiny in recent years by a variety influential individuals and organizations questioning the impact of their use in regard to their discriminatory impact and their validity and reliability in general.

As to the use of credit checks by employers, a recent Society for Human Resource Management (SHRM) study reported that 47 percent of respondents only use credit background checks for job candidates in certain types of positions, for example, job candidates for positions with fiduciary and financial responsibilities (SHRM, 2010). Thirteen percent conduct credit checks on all candidates while 40 percent of the respondents in the SHRM study reported that they did not utilize credit checks on any job candidates (SHRM, 2010). The SHRM study also found that organizations conducted credit background checks on job candidates for a variety of positions. 91 percent of the companies surveyed checked the credit of job candidates for positions with fiduciary and financial responsibility (e.g., handling cash, banking, accounting, compliance, technology) (SHRM, 2010). The SHRM study also found that 65% of the organizations in their study reported they gave candidates the opportunity to explain the results before a decision to hire or fire is made if information discovered in the credit check might have an adverse effect on an employment decision (SHRM, 2010). Another 22% would allow the candidate to explain after the decision to hire or not hire had been made. Only 13% of respondents reported that they would not at any time offer the candidate the opportunity to explain the results (HRM, 2010).

The respondents in the SHRM study reported a variety of negative information that would adversely affect their decision to extend a job offer. The most frequently cited negative information reported was the presence of a current outstanding judgment(s) (e.g., lawsuit filed in court) that was reported by 64% of respondents (SHRM, 2010). The primary reasons reported by organizations utilizing credit checks in the SHRM study include reduce/prevent theft and embezzlement, or other criminal activity (54%) of respondents, to reduce legal liability for negligent hiring (27%), to assess the overall trustworthiness of the job candidate (12%), and to comply with applicable state law requiring a check for a particular position (7%) (SHRM, 2010).

An underlying reason for the increased use of background and credit checks is reports in the literature on the increased propensity of job applicants to provide inaccurate and often times false information in their resumes and job application forms. Accu-Screen Inc. reported "spikes" in "resume falsification data" that they concluded are associated with "economic downturns and weak labor markets" (Minton-Eversole, 2008). The propensity for job applicants to submit inaccurate and false information when applying for jobs is not new. In a 2003 HRMagazine article, the author cited studies that reported finding 44 percent of applicants lied about their work histories, 41 percent about their education, and 23 percent falsified credentials or licenses (Babcock, 2003). The suspect reliability of information being supplied by job applicants to employers and the increased concern associated with negligent hiring is strong rationale supporting the search for more accurate information to support hiring and promoting decisions.

CURRENT FEDERAL REGULATION OF CREDIT CHECKS

The primary regulation of employer use of credit checks in the employee selection process comes from the Fair Credit Reporting Act (FCRA). Employment provisions associated with employer use of credit reports in the selection process posted at the Federal Trade Commission's (FTC) web site http://www.ftc.gov/ . One key provision for employers begins with the requirement for employers to get permission from an individual before requesting a copy of that individual's credit report from a credit reporting company. This cannot be accomplished by simply requiring an applicant to sign his or her application for employment. The notice and authorization must be on a stand-alone document. If an employer utilizes the information from the credit report to take an "adverse action" such as a denial of employment or a denial of promotion, a decision terminate the employee or decision to reassign them, the employer is required to give the individual a copy of the report and a document called "A Summary of Your Rights Under the Fair Credit Reporting Act (ftc.gov/bcp/edu/pubs/consumer/credit/cre35.pdf) (FTC Facts, 2010). Failure to comply with FCRA requirements can lead to litigation initiated by the FTC, other federal agencies, states and individuals.

EMERGING ISSUES

In recent years, a broad coalition of opposition to the use of credit checks as a part of employee selection has surfaced. The coalition includes the U.S. Equal Employment Opportunity Commission (EEOC), advocacy groups like the Lawyers' Committee for Civil Rights Under the Law, state legislatures, and the U.S. Congress (Maurer, 2010). In the EEOC v.

United Virginia Bank/Seaboard Nat'l case, the court determined that credit checks were appropriate for certain positions, such as where the employee handles large amounts of cash even though the bank's credit check policy disproportionately screened out African-American job applicants. In addition to initiating litigation, in February of 2007 the EEOC initiated the E-RACE Initiative "to bring a fresh, 21st century approach to combating racism, which remains the most frequent claim filed with the agency" (EEOC Press Release, 2007). In the press release announcing the launching of the initiative, the EEOC made reference to studies that "some employers make selection decisions based on names, arrest and conviction records, employment and personality tests, and credit scores—all of which may disparately impact people of color (EEOC Press Release, 2007).

STATE LEGISLATIVE INITIATIVES

With Illinois Governor Pat Quinn's signature on the "Employee Credit Privacy Act" Public Act 096-1426, four states had enacted legislation limiting the use of credit checks by employers in making selection decisions. Lawmakers in Hawaii, Washington, and Oregon also have laws on the books similar to Illinois, and several states (see Table 1) and the District of Columbia advanced proposals in 2010 to do the same (Associated Press, 2010).

U.S. CONGRESS INITIATIVES

Representative Steve Cohen (D-TN) proposed H.R. 3149 the Equal Employment for All Act in July of 2009. This piece of legislation was recently part of the discussion at a May meeting of a U.S. House subcommittee on Financial Intuitions and Consumer Credit. The focus of the hearing was on the "Use of Credit Information Beyond Lending: Issues and Reform Proposals (HR Issues Update, 2010). Representative Cohen's proposal would amend the Fair Credit Reporting Act to limit the use of consumer credit checks for prospective and current employees for the purposes of making adverse employment decisions (HR Issues Update, 2010). While Cohen's proposal does state that it would "prohibit a current or prospective employer from using a consumer report or an investigative consumer report", it does include in general terms most of the exceptions as to employers and selected jobs that using credit check information would be permissible in making selection decisions (H.R. 3149, 2010).

Table 1
STATE LEGISLATURES CONSIDERING LEGISLATION TO LIMIT EMPLOYER USE OF CREDIT CHECKS IN 2010

California	New Jersey
Connecticut	New York
Georgia	Ohio
Indiana	Oklahoma
Louisiana	Pennsylvania
Maryland	South Carolina
Michigan	Vermont
Missouri	Wisconsin
Minnesota	District of Columbia
Missouri	

Source: National Conference of State Legislatures (NCSL), Use of Credit Information in Employment 2010 Legislation, (NCSL, 2010).

POLICY AND PRACTICE SUGGESTIONS FOR EMPLOYERS

Basic EEOC guidance with respect to the use of employment test and selection procedures has been relatively consistent over time. With respect to the use of credit checks in the selection process, current EEOC Chairman Stuart J. Ishimaru has been described as "a vocal critic of employee background checks, calling for the agency to issue guidelines within the next 12 to 18 months on how to carry out background checks in a nondiscriminatory manner"(Maurer, 2010). Ishimaru has also stated "the issue of relying on credit checks in employment decisions remains an issue of concern for the EEOC and is likely to be raised more frequently in the coming years because of the ease of access to credit history information" (Lewis, 2010). Jackson Lewis believes that the EEOC "has made it clear" – "that an employer should be able to establish credit history information is essential to the particular job in question, in addition to ensuring that it does not exclude an individual from employment opportunity reflexively because of criminal or credit history" (Lewis, 2010). Specific EEOC guidance can be found at the EEOC's web site.

Employers must be alert for new guidelines with respect to the use of credit checks in the near future. At the local level, employers in those states where legislation is being considered to limit the use of credit information in employment, again, be alert for legislative action. The drive at the state level is in part being driven by the down economy and, with unemployment levels and economic growth still plaguing many cities and states, the prospect for new state laws remains alive. At the federal level, employers should also monitor the progress of Representative Cohen's Equal Employment for All Act as it moves through congress.

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EMOTIONAL INTELLIGENCE, EMPLOYEE ENGAGEMENT AND JOB STRESS: AN EMPIRICAL INVESTIGATION

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ABSTRACT

The purpose of this study was to empirically investigate the relation between emotional intelligence, employee engagement and stress. A sample of 127 employees working in a private organization in Lebanon was surveyed. The regression results provided support for a number of proposed relations between emotional intelligence and stress and employee engagement. The limitations and further studies are discussed.

STRATEGIC INNOVATION AND COMPETITIVE ADVANTAGE: THE CASE OF PROCTOR AND GAMBLE

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Strategic management posits that innovation is the primary means by which organizations adjust to their environmental suprasystem (Porter, 1980; 1985) via strategic choices they make (Child, 1997). The classic definition of innovation is any change that is new to a social system, such as an organization (Rogers, 2003). Innovation includes both invention of novel new changes or imitation of existing changes, with or without modifications or reinvention, by the adopting social system. Innovations can be major transformational or revolutionary changes that are pervasive in their impact on the organization or incremental or evolutionary adjustments in ongoing activities that cumulatively result in substantive change (Damanpour, 1991). Innovations can be viewed terms of processes of the organization and/or its product/service outputs (Utterbeck, 1996). Serial innovation occurs when an organization is repeatedly successful in adopting changes over time (Hamel, 2000; 2006). Strategic innovations are transformational changes that are intended to achieve competitive advantage for an organization. Sustainable competitive advantage is enduring benefits that flow to an organization over a prolonged time period. Organizations that create sustainable competitive advantage typically are serial innovators that are able to adopt transformative changes regularly and incrementally adjusting these changes on an ongoing basis to maintain superior performance results that yields competitive advantage (Hamel, 2000; 2006).

Firms that are able to attain sustainable competitive advantage over long periods of time have been of substantial interest in the management literature. Practitioner publications regularly publish lists of top performing companies based on widely varying criteria, such as: the BusinessWeek "Top 50 Companies" and "Most Innovative Companies" (Businessweek, 2010); the Fortune "100 Best Companies to Work for" and "Most Admired Companies" (Fortune, 2010); Baldridge quality award winners (Baldridge, 2010) and many other similar rankings of of firms in the U.S. and along with a plethora of international rankings. In addition best-selling books are regularly published delineating characteristics of such firms, such as: Peters and Waterman who designated such firms as pursuing "Excellence" (Peters & Waterman, 1982); Collins and Porras who likewise identified a set of firms that were "Built to Last"(Collins & Porras, 2004); and Collins who went on to explore the practices of firms that were able to move from "Good to Great" (Collins, 2001). While subsequent scholarly examination of many of these rankings has cast doubt on their validity (Resnick & Smunt, 2008; Niendorf & Beck, 2008), interest in what phenomena lead to sustainable competitive advantage continues unabated by both practitioners and scholars.

As the world's largest consumer products company, Proctor and Gamble's (P&G) tag line, "Touching lives, improving life," well describes what the company has been doing through serial innovation for over 170 years. P&G has produced loyal customers worldwide and sizeable financial rewards from this strategy. In 2007, P&G's revenues reached a record high of $76.5 billion dollars, up 12.1% from 2006 and net profit, for the same period, was $10.3 billion dollars or an increase of 19.1% (Datamonitor, 2008). The company had some 138,000 employees and

300+ brands in over 180 countries all testimony to innovations responsible for the company's phenomenal success. Since founding of the company in 1837, P&G has created unique ways to touch their customers' lives through a continuing series of transformational innovations in both products and processes widely imitated today. For example, P&G's pioneering use of advertising, direct distribution, marketing research, brand management, and product innovation catapulted the company's growth through the 20th century. Diversification, globalization of the company's brands, innovations in distribution and supply chain management, and P&G's product innovation strategy continues to drive its success in the 21st century. Serial innovation has provided sustained competitive advantage and market leadership that few other firms have attained (Peters & Waterman, 1982; Hamel, 2000; 2006; Porras & Collins, 2004; Fortune, 2010; Businessweek, 2010).

The purpose of this paper is to examine serial strategic innovation as a basis of sustainable competitive advantage through a historical case study of Proctor and Gamble (P&G). For over 170 years P&G has been in continuous operation in the consumer products industry growing to become a multi-billion dollar global corporation today. Over its history, P&G has pioneered a series of strategic innovations that have sustained its competitive advantage in a number of highly competitive market spaces. While the company has pioneered product and process innovations in many areas, marketing innovations are the primary focus of this paper due to their transformative impact on evolution of the company and its industry. This paper reviews key strategic innovations and their contribution to sustainable competitive advantage at P&G over its history. First, historical background on the firm from its origin to date is briefly reviewed. Next, a series of strategic innovations are each reviewed along with their competitive implications in the areas of direct to consumer advertising, direct product distribution, marketing research, brand management, and product innovation. Finally, the paper concludes with discussion of the nexus between serial strategic innovation and sustainable competitive advantage that emerges from this review along with directions for future research.

BACKGROUND

P&G was founded in 1837 in Cincinnati, Ohio by William Proctor and James Gamble as a soap and candle producer (Datamonitor, 2008). Proctor was an English candle maker and Gamble was an Irish soap maker. Both men had immigrated to the U.S. and met by chance when they married sisters. In the wake of the 1837 bank crisis, the men combined their businesses to form The Proctor and Gamble Company with an initial investment of less than $10,000 (Dyer, Dalzell & Oleario, 2004). Cincinnati was a strategic location for the business since it was nicknamed "Porkopolis" due to the sizeable number of meat packers in the city. Animal by-products were essential for soap and candle making, and the large supply available meant that these inputs were relatively cheap. Cincinnati also proved a strategic location as it became a central trading artery where the Ohio and Mississippi rivers converge. Later, a railroad line connected Cincinnati to the Great Lakes further extending the company's reach (Dyer et. al., 2004). By 1890, the company's location made possible efficient production and distribution of the company's 30 different brands of soaps (Datamonitor, 2008).

The 20th century saw continued success for the firm (Datamonitor, 2008). In 1915, P&G opened a facility in Canada representing its first international operations. A chemical division was created during 1917 and 1918 which was responsible for research and development of new products. To sell these new products, P&G created a marketing department in 1924. The purpose of this department was "to study consumer preference and purchasing habits" (Datamonitor, 2008: 7). In 1926, Camay, a perfumed bar of soap, was introduced. By the end of the 1920's, P&G no longer produced candles signaling a major shift in the company's core business. P&G made another major business change in 1930 with the acquisition of its first overseas subsidiary located in the United Kingdom that produced Dreft, which was introduced in 1933 as the first synthetic detergent. This acquisition led P&G into hair care products. In the early 1940's P&G established a drug products division which also developed and sold a variety of toiletry items. In 1946, Tide emerged along with Prell to anchor the company's health and personal care division. By 1948, P&G had created a division to manage the company's growing international business. During this time, Mexico, Europe and Japan became central to the company's expansion efforts. In 1957, P&G purchased Charmin Paper Mills moving the company into the paper products market. In 1963, P&G continued to diversify with the purchase of Folgers Coffee. Continuing this diversification trend, in 1973 P&G purchased Nippon Sunhome Company, launching P&G in Japan. By 1983 P&G entered the feminine product market with the "Always" and "Whisper" products. While P&G was acquiring businesses, introducing new products and entering new markets, the company had not stopped innovating on its established products such as Tide. Tide liquid was launched in 1984. The following year, P&G purchased Richardson-Vicks adding Oil of Olay and Vicks to the company's expanding portfolio. During this time, P&G also purchased Blendax, a popular toothpaste brand in Europe. As the 1980's were drawing to a close P&G made a significant move in Asia by entering into a joint venture to produce products in China (Datamonitor, 2008). During the 1990's the company began to aggressively purchase cosmetic and fragrance companies and products. During this time, the company purchased Old Spice, Covergirl, Clarion and Noxzema. In 1994, P&G purchased Schickedanz, a German paper company. With this purchase, P&G introduced its paper products in Europe. To manage the company's growing international business, P&G decided to group international business activities into four regions: "North America, Latin America, Asia, and Europe/Middle East/Africa" (Datamonitor, 2008: 8).

With the 21st century was on the horizon, P&G continued to expand its portfolio as a consumer goods leader (Datamonitor, 2008). In 1999, P&G purchased Iams Company, a pet food producer. In 2000, P&G received approval from the Food and Drug Administration for Actonel to prevent and treat several types of osteoporosis. In 2001, P&G moved into the hair color and care segment with the purchase of Clairol. This led to purchase of the professional hair care line Wella. P&G purchased the GLIDE dental floss business in 2003 to expand its health and well-being portfolio further. In 2004, P&G enhanced its capabilities in Spain with purchase of the commercial business Grupo Vita. P&G also divested its holdings in the juice industry with the sell of Sunny Delight and Punica. P&G quickly followed up the sale with plans to purchase the Gillette Company in 2005. In 2006, P&G opened a large Gillette manufacturing facility in Poland. Also in 2006, the P&G brand Duracell purchased Garrity Industries, a maker of lighting products (Datamonitor, 2008). In early 2007, P&G looked to make a few strategic changes. It invested $35 to $50 million in its Gillette manufacturing facility in South Boston. At the same time, it announced a restructuring where Gillette and Braun would be rolled under the P&G Beauty and Health division, and Duracell would be managed under the P&G Household division. At the same time, P&G purchased HDS Cosmetics Lab, a skincare line that focuses on specific skin conditions that require more attention than general cosmetics. Also in 2007, P&G worked out an arrangement with Dunkin Doughnuts to sell the Dunkin Doughnuts coffee line in retail stores (Datamonitor, 2008). Historically the company has been divided into three Global

Business Units. In May 2007 P&G decided to realign these three business units. The units changed in July 2007 from Beauty and Health, Household Care, and Gillette; to Beauty Care, Global Health and Well Being, and Household Care. Continuous innovation has characterized P&G throughout its history.

Today, the result of this process of continuous innovation is a global powerhouse in consumer products. It is argued that this success resulted from a series of strategic choices (Child, 1997) that P&G made over the past century and a half. Five of these choices are discussed as representing strategic innovations contributing to this sustained competitive advantage: direct to consumer advertising, direct product distribution, marketing research, brand management, and product innovation.

CONCLUSION

Over P&G's 170 plus year history, it has been a serial strategic innovator that has continuously reshaped itself and its industry. This series of innovations has let to sustained competitive advantage and consistently superior performance results by any reasonable measure: product portfolio, market share, financial returns, competitive positioning. Beginning with Ivory soap, P&G started the use of advertisements to build brand recognition. As brand recognition began to grow, P&G realized that traditional distribution methods would not support the differentiation strategy of its growing brands. By changing from indirect to direct distribution, P&G began interacting with its customers giving it control over promotion, positioning, and control of its brands versus its competitors. While advertisements allowed P&G to communicate with its customers, its customers were unable to communicate their needs, wants, and desires back to P&G. The direct distribution channel changed the way P&G did business revealing that customers had a lot of preferences that needed to be collected and analyzed. Thus, P&G established a marketing research department and with it created a potent new tool to grow its portfolio of brands. After establishment of a marketing research department, the concept and practice of brand management was developed. Under brand management, P&G's business structure put its brands at the center of the company as opposed to functional and operational activities. By centering the business on brands, P&G was able to differentiate products and position them according to the segment they wanted to target. This also reduced competition between brands and increased profitability. Today, P&G continues to pioneer marketing innovations with its new product innovation strategy called "connect and develop". In P&G's case, history has definitely repeated itself as P&G has sustained its competitive advantage through serial innovation

This paper has only considered five strategic innovations related to products and processes at P&G. There are certainly many more innovations that could be considered in these categories in much more depth. For example, further research on strategic innovations at P&G and their relationship to sustainable competitive advantage could be examined, such as: organizational divisionalization in the 1950's; high-performance work systems in the 1960's; stakeholder and reputational management and crisis management innovations related to environmental challenges, product defects, and public relations crises in from the 1960's to date; category management in the 1980's; integrated work systems in the 1990's; and global matrix management and development of global strategic alliances and brand maintenance today. The relationship of these innovations and without doubt many others merit investigation just in P&G. Other firms that have demonstrated exceptional ability to survive and thrive over long periods should be similarly examined for practices that have competitively advantaged their superior performance. In their study of long-lived consistently superior firms, Collins and Porras ultimately concluded that that long term success depends on the ability to change inside an organization to match change outside the organization (Collins & Porras, 2004) – such is the nature of strategic innovation to sustain competitive advantage.

REFERENCES ARE AVAILABLE ON REQUEST FROM THE FIRST AUTHOR AT:
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ARE GUARANTEED CONTRACTS GOOD BUSINESS FOR THE NATIONAL FOOTBALL LEAGUE?: EXAMINING THEORIES OF MOTIVATION AND BEHAVIOR

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ABSTRACT

With the looming expiration of the National Football League's (NFL) current collective bargaining agreement (CBA), a key topic of discussion between representatives for both owners and players is the current salary structure of the league. Among the four largest and most profitable professional sports leagues in the country, including Major League Baseball (MLB), the National Hockey League (NHL), and the National Basketball Association (NBA), the NFL is the only league that does not offer guaranteed player contracts. In the NFL, teams may opt out of a player's contract and, subsequently, their financial responsibility to that individual by simply cutting the player or placing him on waivers. As a result, job security and evaluation of productivity become important factors influencing organizational and individual success. The pay for performance structure that currently exists in the NFL is obviously slanted in favor of team owners. However, the league's players' union (NFLPA) is seeking to establish a more equitable arrangement in the form of guaranteed labor contracts. Determining whether the implementation of guaranteed contracts is a good business practice for any organization involves evaluating how increased job security and monetary reward systems affect variables such as employee attitudes, behaviors, motivation levels, effort, and, ultimately, productivity. According to Krautmann (1990), allegations of production declines and disincentives due to long-term job security and guaranteed contracts have long been associated with seniority rights, professional athletes, and in the academic institution of tenure. The current study will address these productivity concerns by examining competing theories of motivation and behavior in order to determine whether guaranteed contracts are good business practice for the NFL.

MARKETING IN THE BANKING INDUSTRY OF A DEVELOPING ECONOMY

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ABSTRACT

This paper is focused on the marketing strategies which are adopted by banks in Nigeria, with two banks serving as a case study. The major factor for the selection of First Bank of Nigeria, hitherto referred to as First Bank, and First City Monument Bank, hitherto referred to as FCMB, is that they represent two banking sects in Nigeria. Established over century ago, First Bank belongs to what is known as the old generation banks while FCMB, with a history of less than two decades, is regarded as a new generation bank. Taking into cognition the economic atmosphere of Nigeria, a developing country, the use of the marketing techniques as well as their effectiveness in reaching the desired customer/ consumer population is discussed. The factors that militate against customer-satisfying banking system and the overall effects are highlighted, leading to a conclusion of what can be done to steer the ship of the Nigerian banking system in a new direction.

INTRODUCTION

In the developing economy of which Nigeria is one as elsewhere, marketing practices are considered standard features of the packaged goods industry. However, their relevance in the service industry has been played down, as there has been a poor perception worldwide of the applicability of marketing techniques to the service industry.

It is clear that the topic of our discussion today is the most appropriate one for the world to know what effort has been put in place to take banking out of the woods in the developing world. The fact that banking belongs to the service sector underscores the need for an effective marketing network and as a player in the field of banking I have been involved both directly and remotely in the initial contact between clients and the organization.

Be that as it is, the need to give a practical effect to the **marketing concept** has become even more overwhelming in our marketing process; and it is what will keep any service industry going in the present era of our economy when focus is been shifted towards technological and physical development.

DEFINITION OF MARKETING

Simply put, **marketing** is buying and selling in the market place or filling a gap. Though quite precise, the limited scope of this definition faults its relevance to the topic of our discussion.

Indeed there are as many definitions of marketing as there are authors and as would be expected, each definitions seeks to establish some sort of superiority over others. Below are some of the definitions of marketing:

- **American Marketing Association**: The process of planning and executing the conception, pricing, promotion and distribution of ideas, goods and services to create exchange that satisfy individual and organizational objectives
- **American Heritage Dictionary:** The commercial functions involved in transferring goods from producer to consumer
- **Merriam Webster's Marketing**: An aggregate of functions involved in moving goods from producer to consumer
- **Kotler and Armstrong (2001)**: A social and managerial process whereby individuals and groups obtain what they need and want through creating and exchanging products and value with others.

The irony of the situation is that these definitions emphasize basically the same principles. Rather than insisting on mere definitive semantics, therefore, a better and preferable approach is to examine the common bases of the various definitions.
Marketing Involves:

1. Identifying the most profitable markets now and in the future;
2. Assessing the present and future needs of customers;
3. Setting business development goals and making plans to meet them;
4. Managing the various services and promoting them to achieve the plan.

Three deductions are possible from the foregoing. The first is that the markets so identified must be profitable. The second is the recognition given to the consumer / customer as king (a back-up for the marketing concept) and finally, the implementation of action plans to achieve desired goals.

In designing and implementing the plan of action directed at satisfying consumer needs, marketing builds squarely on a mix of four otherwise referred to as the marketing mix or 4 P's of marketing:

1) Produce
2) Price
3) Promotion
4) Place.

To maximize the combination, the effects of marketing must be seen from two main perspectives: ***micro*** and ***macro.*** In an organizational context, the management represents the macro level where appropriate policies are formulated while individual operators directly involved in policy implementation form the micro segment. At this second level are branch managers, customer service officers, tellers, marketers, security, etc.

COMMERCIAL/UNIVERSAL BANKING

Commercial bank is the bank that offers a broad range of deposits accounts, including checking savings and time deposits and extends loans to individuals and business **(**Campbell R. Harvey, 2009**)**. In recent time, the services of commercial and investment bank that were suppose to be in contrast are becoming more intertwined to be in the universal banking adoption by the commercial banks in the developing world.

WHAT IS SERVICE MARKETING?

To talk about banking alone in this era of Universal banking will amount to mistake and to have a proper look of the banking Industry is better refer to as financial services industry (universal banking). Financial services are those intangible but essentially identifiable offerings packaged by financial institutions to satisfy the needs of their customers.

Primarily, financial institutions include banks and non-bank financial houses like the insurance companies, provident fund, investment companies etc. Financial services marketing belong to a highly specialized realm of **service marketing**. Services are those separately identifiable, essentially intangible activities that are not necessarily tied to the sale of product or another service.

The special nature of services therefore derives from several distinctive characteristics which create special challenges, considerations and opportunities that often result in marketing programs that are substantially different from those found in goods marketing. These features include:

(a) Intangibility
(b) Inseparability
(c) Heterogeneity

Intangibility of bank services derives from the basic reason that it is impossible for customers to sample i.e. taste, feel or smell the services before transacting business with banks in a developing nation like Nigeria but banks in the recent times are investing on technology.

Inseparability from the marketing stand point connotes that direct sale is the only possible channel of distribution but this is only one strategy and stage of development as technology is fast changing the phase and movement into a new era is in top gear.

Although heterogeneity constitutes a major feature of bank services in Nigeria, there, however, appears to be a reversal of the rule. Significant differentiation exists in levels of efficiency and consistency of quality of services rendered. Also some degree of differentiation is visible in recent times at the institutional level. For instance, there are banks that specialized in investment banking (FCMB), retail banking (First Bank) etc.

BANKING SERVICES

By bank services we mean those services provided at the point of delivery by banks through either their branches, area or head offices. Because of the limitations imposed by the nation’s stage of technological development, these outlets remain the traditional channels of distributing bank services in Nigeria. All banks maintain sizeable number of branches to ensure a possible and further reach of their customer spread. For instance, First Bank has over 600 branches while FCMB has over 300 branches.

MARKETING FINANCIAL SERVICE (WHY AND HOW)?

The peculiar feature of intangibility associated with financial services (which also includes banking services) attaches greater responsibility to the marketing of such services in the sense that unlike goods or tangible products, they cannot be smelt or felt. This explains the importance attached to consumer satisfaction in service marketing as the former remains the most appreciable barometer for measuring success in any service organization.

To appreciate the 'HOW' of financial services marketing, it will be necessary to recall the models earlier established viz: The perspectives of marketing management and the marketing mix.

Any good marketing plan is built around the marketing mix and, as was earlier indicated, the mix is a combination of variables which form the frame of any marketing program. The marketing mix consists of product, price promotion and place. Product represents a bundle of utilities which an organization offers for the satisfaction of its customer / consumers. Price is the amount (usually in money terms) for which a product is sold or purchased. Promotion consists of a combination of sales stimulating devices directed at communicating better with the consumer. Place, in other words referred to as the distribution point, is the final destination at which exchange is affected.

From the foregoing, the first three components of the mix apparently belong to the macro level of marketing management while the fourth component is within the domain of micro marketing management. However, some aspects of promotion also fall within micro marketing management. Management formulates the kind of the product it wishes to offer for sale. It sets the price (i.e. commission, interest etc.) and determines the promo-model. On the other hand, the field operator gives a personal effect to some components of the promo-model and finally delivers the service to the customers.

PROMOTION AND PROMOTIONAL STRATEGY

According to Carter McNamara (2008), promotion can be defined as 'the effort to keep the product/services on the minds of the costumer and helps stimulate demand for the product'. The strategy of promotion includes the variables of an action plan geared towards achieving a particular objective. A major component of the marketing mix promotion is employed by banks to stimulate sales by directing persuasive communication to buyers. Where a company has to sell intangible products, the task becomes more enormous unless it adopts an effective and well balance strategy. An effective promotional program in any service oriented organization should focus on three major goals:

a. Portray the advantages service in a pleasant and appealing manner
   - ***Benefits***
b. Emphasize the uniqueness of the service from those of competitors
   - ***Features***
c. Build a good corporate image and reputation
   - ***Goodwill.***

Summarized, any worthy service organization must be able to confer benefits, feature and goodwill on its customers.

Various promotional tools for marketing bank services include advertising, sales promotion, publicity and personal selling. **Personal selling** is the oral presentation in a conversation with one or more prospective purchasers for the purchasers for the purpose of making sales. It is widely used in Nigeria due to its nature of contact with buyers who are widely spread (scattered) with little or no access to modern day (internet) banking facilities.

On the other hand, **sales promotions** consists of marketing activities other than personal selling, such as advertising and publicity, that stimulate consumer purchasing and dealer effectiveness. They include displays, shows, exhibitions, demonstrations, give-aways and other non-recurrent selling efforts outside the ordinary routing.

Advertising, according to McNamara (ibid), is 'bringing a product (or service) to the attention of potential and current costumers'. The banks in Nigeria are now employing the power of advertisement to market their products based on the ease of reaching a larger audience both near and far. For example, adverts are placed on both local and international media.

Publicity is the care attention either paid for or not but set to draw prospective costumers to the features awareness of the product /services. Like any service organization, the bank applies a combination of these promo tools, but the intelligent use of a given combination strikes the difference and determines the level of impact such bank makes on a particular target audience.

Effective marketing of services, however, largely depends on the readiness and capability of the organization to meet competitive needs of the market place and the degree of efficiency, honesty and image display by the organization and its agents.

PLACE

One of the difficulties posed by tangible product marketing is its high cost profile resulting from physical distribution or placement of the goods. As established earlier, banking services are intangibles and clearly do not fall foul of this limitation.

What then is the problem with placing intangibles?

The greatest difficulty is possession **utility**. Possession utility can only arise after a potential customer has been privileged to encounter with the necessary product. In essence, until time and place utilities have been provided, possession utility remains invincible.

The emphasis on creating possession utility encourages aggressive banking rather than arm chair banking. Especially in our present era of technological advancement and severe competition, banking services ought to be carried to the customer with desirable courtesies. This is the surest bet for a necessary competitive edge that will ensure survival.

TOWARDS A NEW HORIZON

The aim of any marketing effort is to fill a gap. Filling a gap (present or potential) implies that a vacuum exists or may exist in the future. Our present day experience portrays a banking system that is burdened with a myriad of irregularities ranging from long queues and delays at bank counters to shoddy treatment of customers by bank workers. Other apparent irregularities include:

*. Delays and inaccuracies of monthly statements of accounts;

* Delays caused by clearance of deposited checks as a result of the inability of branches to forward such checks on time;
* Setting of unreasonable deposit target.
* Sharp practice that does not conform to banking ethics.
* Lack of basic infrastructure for technological enhancement of operation

Additionally, the Nigerian banking system is in recent times implicated of corruption, leakage of confidential information, bad loans, inability to communicate effectively with customers and lack of adequate technology. While some of these shortcomings are institutional and may inevitably require the attention of the regulatory bodies, some can be effectively contained by individual efforts. These individual efforts again make the difference and to a great extent determine the various levels of success recorded by different banking institutions.

The role of public relations comes in handy in our search for a new horizon. Public relations as we know are deliberately planned and sustained effort to maintain a mutual relationship with customers. At the individual or micro level, mutual relation is a function of the personalities of banks' representatives and how these are brought to bear on customers.

Perhaps we should conclude by observing the very competitive nature of present day banking system. The panacea for survival is therefore in consistently monitoring the system in addition to evolving new strategies that will improve upon the inefficiencies of our competitors and gear towards western world banking.

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PROACTIVE PERSONALITY: ORGANIZATION VS CAREER COMMITMENT

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ABSTRACT

Using a sample of 101 currently employed MBA students, the researchers assessed the relationship between proactive personality and the different types of commitment i.e. affective, continuance, normative and career. The results indicated that proactive personality is significantly positively related to affective, continuance, and career commitment. The study suggests that if employees with proactive orientation are empowered to make decisions like an entrepreneur, this will enhance their commitment to both career and organization.

INTRODUCTION

In these turbulent times, the struggle for corporate survival has added pressure on organizations to reconsider the role of individuals as key players and their capacity to revitalize the organizations. Researchers have agreed that individuals' personalities shape their behavior; we can therefore conclude that individuals with certain traits could help organizations with their efforts to adapt. One of such traits is proactive personality. According to Bateman and Crant (1993, p.105) proactive individuals "scan for opportunities, show initiative, take action, and persevere until they reach closure by bringing about change." However, if such individuals are needed for change, can we then count on their commitment to the organization, or, in other words, how committed are they? This prompted the researchers to investigate whether a relationship exists between proactive personality and the different types of commitment (Affective, continuous, normative, and career), especially since some organizations have identified proactive oriented behavior as a requirement in their hiring process (Campbell, 2000).

Proactive Personality

In recent years, personality traits have become both popular and an accepted means for explaining individuals' behavior, i.e. actions, manners, targets, and purposes (Llewellyn and Wilson, 2003). This helps identify the reasons for individuals' different reactions to similar situations (Cooper, 1998). Ryckman defined Personality as the "dynamic and organized set of characteristics of a person that uniquely influences his/her cognitions, motivations, and behaviors" (1982, p. 5). This concept represents behavioral and cognitive prototypes that have been proven stable through time and in different settings (Cattell, 1964). According to Bateman and Crant (1993) past research have considered proactive personality as a stable individual disposition.

Individuals with proactive oriented personality are somewhat unconstrained by situational factors and affect environmental change (Bateman and Grant, 1993).They recognize opportunities, show initiative, take action, and persist until meaningful positive change occur in their environment regardless of obstacles (Seibert, Kraimer, & Grant, 2001). Proactive individuals tend to set high standards and make use of all available resources toward achieving them (Grant, 1996). Crant defined proactive behavior as "taking initiative in improving current circumstances or creating new ones; it involves challenging the status quo rather than passively adapting to present conditions" (2000, p. 436). On the other hand, less proactive or reactive individuals tend to be passive, show little initiative, and are likely to adapt to situations rather than change their circumstances.

Past research has positively associated proactive behavior with entrepreneurship (e.g., Becherer & Maurer, 1999; Grant, 1996), individual and job performance (e.g. Grant, 1996; Ashford and Northcraft, 1992), career success (e.g. Seibert et al., 1999), and leadership (e.g. Crant and Bateman, 2000; Deluga, 1998). Although most of these studies indicated positive outcomes with proactive personality, nevertheless, a study by Bolino and Turnley (2005) linked it with job stress, work family conflict, and job overload which are negative outcomes.

Commitment

The definition of commitment in the literature seems inconsistent. However, in this research we define organizational commitment as the employee's goal to remain with the organization (Meyer & Allen, 1997). Organizational commitment has been positively linked to hours devoted to work, morale, absenteeism, intent to quit, performance of the organization (Silverthome, & Hung, 2006; Fernanado J. et al., 2005; Riketta, Chen, 2002) and the satisfaction of employees (Gallie and White 1993). Previous literature also indicated that organizational commitment and job performance have a direct relationship (Chan, D. 2006, Fernando J. et al., 2005, Vandenberghe, C. et al., 2004, Bishop J. W. et al., 2000), is positively related to the need for achievement (Lee, 1971; Patchen,1970), and job challenge (Buchman, 1974). Hence, maintaining highly committed personnel should be a priority in the minds of those responsible.

Meyer & Allen (1997) distinguished a three-component model of commitment and developed a scale to measure them which generally holds up across cultures (Sulimand, & ILes, 2000; Ko, Price, & Mueller, 1997). These are: (a) Affective commitment which involves the identification, involvement and emotional attachment with the organization leading to the sentiment of wanting to continue employment in the organization; (b) Continuance commitment which stands for profit coupled with continued participation on the one hand, and the cost associated with leaving on the other hand (Kanter, 1968) creating a feeling of needing to continue employment; and (c) Normative commitment represents a feeling of obligation towards the organization i.e. a person ought to continue employment. Together, these components make up an employee's 'commitment profile'.

Organization and job commitment have received a great deal of attention from researchers. However, few studies have examined career commitment in general, and in a non-western context in particular. Researchers have indicated the distinctiveness of career, organization and work commitment constructs; nevertheless, they have also indicated a correlation between them (Goulet and Singh, 2002; Morrow, 1983 &1993; Muller, Wallace, & Price, 1992; Wiener & Vardi, 1980). Career commitment reflects individual's commitment to a specific work and could relate to work outcomes (Ballout, 2009). According to Noordin, Williams and Zimmer (2002), Career commitment is reflected by the individual's identification with the career more than with the organization membership.

Career Commitment is the planned choice of a line of work and the belief that loyalty in this choice will surpass a particular job or organizational context (Morrow, 1993). According to Colarelli and Bishop (1990), career commitment measures not only the individual's identification of personal career goals and attachment to these goals but also measures the involvement in these goals. In this study, we adopt Blau's (1985, p. 278) definition of career commitment as "one's attitude toward one's profession or vocation".

HYPOTHESES

Proactive Personality and Commitment

An individual's predisposition is basically important in understanding his/her tendency toward certain action. A growing body of literature shows that a relationship exists among personality variables and attitude or behavior at work (Roberts and Hogan, 2001), and commitment to the organization is attitudinal and behavioral in nature.
Attitudinally, individuals identify with the organization and are committed to remain in order to pursue goals (Porter et al., (1974); while behaviorally, individuals are bound to the organization through diverse interest such as, seniority, pension, etc. (Becker, 1960).
Meyer and Allen (1997) argue that affective commitment is positively related to individuals' willingness to commit extra effort to their work; this is the kind of commitment that can be expected to be related to proactive orientation. We propose:

H1: Proactive personality is positively related to affective commitment

On the other hand, normatively committed employees attach themselves to the organization solely because they believe it is the right way to behave. It is based on the individual's personal obligation to act in a way to meet organizational goals and interests (Allen and Meyer, 1990; Wiener, 1982). Proactive individuals take action to influence positive change in their environment. They possess entrepreneurship initiatives which make them more likely to quit the organization to start their own businesses (Becherer and Maurer, 1999). Thus, we can predict that:

H2: Proactive personality is not related to normative commitment

A longitudinal study by Seibert, Grant and Kraimer (1999) found that proactive orientation is positively associated with innovation, self reported objective (salary and promotion), and subjective career satisfaction. Together, self reported objective (which are indicators of perceived cost/benefit, referred to by Meyer and Allen as continuance commitment) and subjective career satisfaction indicate career success. We can thus propose the following Hypotheses:

H3: Proactive personality is positively related to continuance commitment
H4: Proactive personality is positively related to career commitment

METHODOLOGY

Instruments

In this study, the researchers focused on understanding the relationship between proactive personality and the different types of commitment i.e. affective, continuance, normative and career. A five parts questionnaire was developed to include items to measure the three dimensions of organizational commitment, career commitment and proactive personality. To measure organizational commitment, the Component-model of Commitment developed by Meyer & Allen (1997) was used in this research for it was specifically designed to measure the three types of commitment to the organization; i.e. affective, continuance, and normative commitments. It is a multidimensional scale that is widely used and intensively tested (e.g. Culpepper, 2000; Jaros, 1997). It includes 24 items, 8 items per commitment type. Sample items: affective commitment "This organization has a great deal of personal meaning to me"; continuance commitment "Right now, staying with my organization is a matter of necessity as much as a desire"; normative commitment "Jumping from organization to organization does not seem at all unethical to me".

To measure career commitment the researchers used the scale developed by Blau (1985) consisting of eight items. Sample item "I definitely want a career for myself in this industry".

As for proactive personality, we used a 10 item scale developed by Seibert et al., (1999). Sample item "I am always looking for better ways to do things". All items were measured using a 7-point Likert scale ranging from 1 as strongly agree to 7 as strongly disagree. In addition to the scale's items we included demographic questions as well.

Sample

The sample was composed of employed MBA students attending an American University in Lebanon. The researchers distributed 140 questionnaires but only 101 completed the survey forming a 72% response rate. Of the sample, 53 were male and 48 female. The majority of the respondents were single and their ages were between 20 and 30 years old. As to their current position, 42 of the respondents have a supervisor position and 24 have a middle management position.

Hypothesis Testing Results

In accordance with previous results on the different types of commitment the reliability coefficient scores for the different types of commitment were consistent with the previous studies on commitment. Table 1 provides the means, standard deviation and coefficient alpha for the variables in this study.

In order to examine the predicted relationship between proactive personality and commitment i.e. affective, continuance, normative, and career, a Pearson correlation analysis was used. Data were analyzed using SPSS 17 statistical package. Hypothesis 1 predicted that proactive personality would be positively related to affective commitment. A significant positive association of $r=.509(p<.01)$ was found between proactive personality and affective commitment; thus supporting the predicted relationship. Hypothesis 2 predicted that proactive personality would have no relation with normative commitment. No relation was found; thus supporting the predicted relationship. Hypothesis 3 predicted that proactive personality would be positively related to continuance commitment. A significant positive association of r=.364 (p<.01) was found between proactive personality and continuance commitment; thus supporting the predicted relationship. Hypothesis 4 predicted that proactive personality would be positively related to career commitment. A significant positive association of r=.356 (p<.01) was found between proactive personality and career commitment; thus supporting the predicted relationship. The results of the correlation analysis are provided below in Table 2.

Table 1: Mean, Standard Deviation, and Reliability coefficient for the different types of Commitment

Variables	**Mean**	**SD**	**1**	**2**	**3**	**4**	**5**
1. Proactive comm.	2.31	.871	**(.88)**				
2. Career comm	3.54	.895	.356**	**(.71)**			
3. Continuance comm.	3.68	.804	.326**	.212**	**(.75)**		
4. Affective comm.	3.07	.964	.489**	.655**	.214**	**(.74)**	
5. Normative comm	3.64	.624	.206*	.543**	.207*	.439**	**(.73)**

* Correlation is significant at the .05 level
** Correlation is significant at the .01 level

Table 2: Correlation Results between Proactive personality and commitment (N=101)

	Career	Continuance	Affective	Normative
Proactive Personality	.356**	.326**	.489**	.206*

*Correlation is significant at the 0.05 level.
**Correlation is significant at the 0.01 level.

To further examine the proposed relations and to provide a complete understanding of these relations regression analysis was conducted. The regression results provided additional support to the results of the Pearson correlation. The results indicated that proactive personality significantly predicted the four types of commitment. Table 3 provides a detailed description of the regression results.

Table 3: Regression analysis results

Hypotheses	b	β	SE	R^2	t	Sig
H1 DV: Affective Commitment P- Proactive Personality	.564***	.489***	.10	.23	5.612	.000
H2 DV: Normative Commitment P- Proactive Personality	.133*	.179*	.07	.02	1.819	.072
H3 DV: Continuance Commitment P- Proactive Personality	.282***	.303***	.08	.08	3.174	.002
H4 DV: Career Commitment P- Proactive Personality	.341***	.324***	.148	.10	3.429	.001

***p<.1, **p<.05, ***p<.01**

DISCUSSION AND CONCLUSION

A sample of 101 currently employed MBA students from an American university in Lebanon was surveyed in order to assess the relationship between proactive personality and affective, continuous, normative and career commitment. Our results show that proactive personality is significantly positively related to affective and continuance commitment. This could be the result of our sample characteristic i.e. employed MBA students. In general, MBA students are young and as such might be either newly employed or has not been with the organization for a long time**.** This is in line with previous literature that found a positive relation between proactive personality and newcomer adaptation (Chan and Schmitt, 2000).

Our results also indicate a positive relation between proactive personality and career commitment. This is also in line with previous research that linked proactive orientation with entrepreneurship (e.g., Becherer & Maurer, 1999; Grant, 1996). In addition, although our results show a significant relationship between proactive personality and normative commitment, nevertheless, the r square value is 2% indicating a very weak relation between these variables.

In conclusion, the widely debated relationship between career commitment and organizational commitment remains controversial. While Aranya and Ferris (1984) suggest commitment to only one, Norris and Niebuhr (1983) and Bartol (1979) conversely see high commitment to both. Gouldner (1957), however, claims incompatibility.

As stipulated in our research, provided the empirical evidence that proactive personality was positively related to affective, continuance, and career commitment, and since previous literature has positively related proactive orientation to entrepreneurship, we can therefore conclude: if employees with proactive orientation are empowered to make decisions like an entrepreneur, this will enhance their commitment to both career and organization. According to Chatman et al., (1998), individuals whose values are congruent with the operating values of the organization are more likely to be committed to the organization.

LIMITATION AND FUTURE RESEARCH

Our results extend the literature on proactive personality and commitment. However, no study is without limitations. The first limitation is that data was collected from a single source thus the study can not be generalized. It is recommended that future research should examine whether our finding can be generalized beyond employed MBA students and other cultures. The second limitation is the demographic characteristic with regard to the age and the education level of our respondents, the majority of our sample was between 20-30 years old and pursuing their masters degree. Future research should collect data from different groups. The third limitation is the self-reported data. Future research should collect data from both employees and supervisors to have a better understanding of the employees' commitment to career and organization and how these are linked to proactive personality. Further studies could also examine variables that might mediate the relationship between proactive personality and career commitment such as motivation and job satisfaction. In addition, examining the moderating effect of gender, age, and experience on the relation between proactive personality and the commitment types may provide a better understanding of this type of relationships.

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FUEL MANAGEMENT MODEL FOR AIRLINE INDUSTRY: A LITERATURE REVIEW

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ABSTRACT

The objective of this paper is to review the literature regarding the airline fuel consumption, and fuel management models. Due to rapid growth of airline industry fuel consumption is increasing continuously. Jet fuel is one of the major operating cost parameter of the airline industry. Therefore minimization of fuel consumption is essential in the airline industry. Fuel management model is also one of the strategies of the fuel management for the minimization of airline fuel consumption. Literature review will explore the important input parameters for the model development. This literature review also will help to develop a more fuel efficient management model independent of those which were discussed here and will further lead to the minimization of fuel consumption in aviation industry. Further the model will also consider the fuel consumption during the ground operations.

Keywords: *Fuel conservation, Fuel management models, Jet fuel.*

INTRODUCTION

Airline industry is a catalyst for economic development and trade in an increasingly globalized world where the peoples and goods are moving farther, faster and cheaper than ever .Airline spends large sums of money to operate their aircraft. Jet fuel is a major component in the cost of operations for commercial airlines. For every $1 increase in oil price, US airline face an additional annual cost of $425 million. In addition, high fuel costs have forced major US carriers to increase their ticket prices, an action that most airlines have tried to avoid due to sluggishness in the demand for air travel in the last 3 years. With the tension in the Middle East and higher fuel demand from China, a relief in fuel prices are not expected soon (khaled Abdelghany, 2005). Passenger traffic is expected to grow at a rate of 5 per cent for the next 20 years, and current numbers of passengers should double by the year 2020. Aircraft manufacturers aim to meet the demand for more airplanes to carry the expected increasing numbers of passengers, but such goals are challenged with economical and environmental challenges. Increased crude oil prices have affected the aviation industry with increased jet fuel prices, and consequently, have brought additional costs to air carriers (Mohammad Mazraati and Osama M. Alyousif, 2009). Therefore fuel consumption should be minimised in the airline industry. Fuel management manages the use of fuel in the efficient way in the airline industry .Fuel management models are one of the aspect of the fuel management to minimize the fuel consumption. Here the literature regarding the fuel consumption, and fuel management models were reviewed. This literature review will help to develop a more fuel efficient management model independent of those which were discussed here and will further lead to the minimization of fuel consumption in aviation industry. Further the model will also consider the fuel consumption during the ground operations

RESEARCH METHODOLOGY

The literature review was began by searching database such as, Jstor, Science Direct, Infomaworld, Social Science Research , International Civil Aviation (ICAO) journals, Springer, Aerospace database, Dissertation reports, and several other relevant article. The search was limited to recent article due to rapid pace of change in the airline industry and recent development of fuel conservation strategies and fuel management models. In these data base several hundred article were located using key worlds airline fuel consumption, fuel conservation, fuel efficiency, fuel optimization, management model, and several others related search terms. The abstract of each of these was read and approximately 31 abstracts were determined relevant to the topic. Full text article were obtained for 19 articles and all were studied in detail from these article 8 were valuable for literature review.

RESULTS

Literature discussing the airline fuel consumption, conservation, and fuel management models was reviewed**.**

AIRLINE LINE FUEL CONSUMPTION

According to projection, the aviation industry will experience a greater growth in next two decades than most of the other industries. By the end of this century the revenue- passenger-miles will double or quintuple, depending upon weather we choose the limited growth scenario or the expansive growth scenario. The number of aircraft flying will double or treble. The fuel consumption will raise 200-300% (T.Nejat Veziroglu, 1979). David L. Greene (1990) points out that in the early 1970´s air transport doubled its energy efficiency and restrain the growth rate of fuel. Even with this improvement, energy use by commercial air carriers grew at an average annual rate of 2% from 1970 to 1987.Seat miles per gallons of commercial aircraft (SMPG) improved from 26.2 in 1970 to 31.1 SMPG by 1975 and reached 45.6 SMPG in 1987. Current generation, new aircraft deliver approximately 50-70 SMPG.

Certified U.S. air carriers consumed more than 13.6 billion gallons of jet fuel in 1997 (domestic operations only), which represents an average increase of 3.5% during each of the previous five years. Based on the following projections, fuel usage will continue to trend upward. The Department of Transportation (DOT) projects that there will be a 3.6% annual increase in passenger enplanements over the next twelve years. The average annual increase of airborne hours for U.S. air carriers is expected to increase by approximately 3.5% during the same period. These data suggest a substantial growth in the industry and, thus, the potential for even more fuel consumption by air carriers (Stolzer A.J., 2002).

Jet fuel demand and aviation traffic growth are not strictly correlated, since the efficiency of aircraft and air traffic management are improving. Emma Nygren (2009) reports that aviation industry actually has gone through a huge development since the first commercial aircraft in service. Since the 1960s aircraft are 75% quieter and have reduced fuel consumption by 70%. The Association of European Airlines declares that the current average fuel consumption is less than 5 l/100 RPK, and that the modern aircraft consume approximately 3.5 l/100 RPK

According to Air Transport Association (ATA) chief economist John Heimlich, the average price of jet fuel rose 120 percent between 2001 and 2006, and it is up 28 percent just compared to last year . This rapid rise has turned potential profits into losses for some U.S. airlines and minor losses into major ones. U.S. airlines burn 19 billion gallons of jet fuel per year, meaning that a one-cent-per-gallon increase in the price of jet fuel costs the struggling U.S. airline industry $190 million. At some airlines, fuel has replaced labor as the single biggest expense. Since jet fuel is refined from crude oil, which is likely to remain relatively expensive for at least the next year or two, the price of jet fuel is unlikely to drop significantly any time soon. At American Airlines, the world's largest carrier, fuel accounted for 26 percent of total expenses in 2005 compared to 14 percent in 2001. One of its MD-80s burns 2100 gallons of fuel on a two-hour flight. At $2.50 per gallon, near the pump price at some airports that flight costs $5250 in fuel alone. For American, a one-penny-per-gallon increase in fuel prices costs the airline $29 million annually, a bit less than the list price for a new Boeing 737-700. Worldwide, the airlines spent an estimated $97 billion on fuel in 2005, up from $67 billion in 2004 and $44 billion in 2003(Thomas Andrew Box, 2006).

International Civil Aviation Organization (2009) points out that in 2007, even under the most pessimistic scenarios, oil prices were not expected to go beyond $90/b in the medium-term (2007-2012). The fuel share of the total operating costs for a typical network airline was around 25 percent during this period, corresponding to an average oil price of $65/b and a relatively stable yield evolution between 2000 and 2006, as expressed in real terms. Energy specialists believe that oil prices will average around $50/b in 2009, and then rise to $80 in 2011 before approaching the psychological barrier of $100/b again only in 2013.

FUEL MANAGEMENT MODELS

In 1973 the world fuel crises had a drastic impact on the air line industry. National Airlines (USA) developed and implemented a Fuel Management and Allocation Model that utilizes linear programming to solve this problem. The goal of this model was to minimize the effect of price increases and fluctuating allocation levels, and to maintain a planned flight schedule.

The model has been in use for over two years now, resulting in substantial savings to the Company and enabling National to maintain an optimal fueling policy. Through extensive use of sensitivity analysis on the variables, it is possible to immediately evaluate a price or supply change. The analysis determines how much the costs and purchase quantities can vary from their optimal values without affecting the decisions, and at what point a new solution is necessary. During contract negotiations with a vendor, the analysis allows an airline to determine the total system effect from proposed price and supply changes. In addition, alternative flight schedules can be analyzed quickly to determine the effect on current fuel contracts and allocation levels at each station (D. Wayne Darnell and Carolyn Loflin, 1977).

Since the early part of 1974, a number of airlines have been developing least cost fueling strategies for their flights through use of mathematical formulations and computer techniques. A good deal of attention was also focused on problems arising from the governmentally imposed fuel allocation limitations. To combat supply availability problems and ease the impact of severe system wide vendor price differentials, National Airlines developed in 1974 a Fuel Management and Allocation Model. Most major airlines, including National, Eastern, Air Canada, and Swissair have utilized similar models to develop fueling strategies. This model had some limitations. This requires large computer and sophisticated software for linear programming formulation with large number of variable and constraints. It also requires trained operators.

Many smaller airlines, particularly regional carriers and commuter lines, may not have large hardware and software packages available, nor wish to become obligated for their rent or purchase. Others have a vested interest in employing only those managerial tools characterized by their ease of use, timeliness of information, and frugality of cost. Because of these reasons, a number of smaller firms have been reluctant to investigate the cost-avoidance potential of computer-based fueling.

Frontier Airline in the spring 1977 had developed an alternative prior to this model. Frontier Airlines had investigated the potential utility of linear programming approaches for development of fueling strategies and had turned away major airlines offering to sell such software. Fueling plans were being developed on a manual basis to take advantage of some obviously favorable tankering opportunities, yet no coordinated effort was being made to determine all opportunities, nor to highlight least-cost options available in case of a supply shortage or allocation constraint. An outline of characteristics of a fuel allocation model more preferable for general ease of use was prepared. A methodology was developed to produce fueling plans for Frontier comparable to those obtainable from software available within the industry, but within the guideline proposed. In the first three months of operation of this heuristic fuel allocation model at Frontier, fuel cost avoidance potentials of over $100,000 were indicated, based on a comparison of forecasted versus actual average per gallon costs. Computer costs have averaged under $300 per month with only 32-40 man-hours required per month to update the model for revised flight schedules and equipment routings (Barry Nash, 1981).

McDonnell Douglas in 1991 developed a fuel management model for airline industry to estimate the profit potential of various aircraft under optimal fuel management policies. This model which provides information to: asses the fuel requirements by station for future aircraft schedules; reduce fuel costs or consumption through efficient aircraft fueling policies; and provide an airline with valuable inputs to suppliers. The problem formulates as linear program. However, by a series of transformations on the constraints and variables, it can often be converted to a generalized network and, in some cases, even a pure network. This decreases computation time by a large factor and allows the solution of much larger problems. Fuel expenditure are a major cost of airlines. Substantial cost reductions may result from tankering or fuel ferrying if fuel prices differ significally from station to station. Aircraft with larger fuel tank capacities would have a greater ability to tanker than those with smaller capacities. All airlines are aware of the savings in cost that are possible by ferrying fuel. Most airlines have some quantitive ways to devise such cost saving policies. In particular, some airlines look only at the prices at the next downside station in determining whether or not to tanker.

Zouein, Abillama and Tohme, used a multiple period capacitated inventory model for airline fuel management. A decision support model was used. To minimize the overall fuel cost this model determines the amount of fuel to be uplifted by a plane at each station along its route. Fuel management problem was modeled as a multiple period capacitated inventory problem and solved using linear programming. This model was used for Middle East Airline for one week and resulted in million dollar saving. The model was tested on real case study. The case study involved determining an optimal fuel uplifting policy MEA operations. The optimal policy was compared to actual fuel cost incurred by the company for the same time period and resulted in 10% saving in fuel cost over one week planning horizon (Zouein, 2002).

Another model for airline was presented by Khaled Abdelghany for the airline fuel management strategies. Optimal fuel ferrying strategies was presented by this model. Earlier the trade-off between the saving associated with purchasing fuel at airports with low fuel prices, extra fuel burn cost associated with flying the aircraft with heavier fuel weight, loading the aircraft with more fuel weight increase the aircraft maintenance requirements and the additional maintenance cost associated with flying the aircraft with heavier fuel weight are not considered in the most existing models. The problem was formulated in the form of mathematical model with an objective function that captures the trade off between costs saving associated with loading excess fuel at airport with lower fuel prices, extra fuel burn cost, extra maintenance cost associated with loading excess fuel.

CONCLUSION

Literature revealed several important facts. From the literature it is clear that fuel conservation is a major concern to the airline industry. Literature reviews the fuel consumption trends and different fuel management models for the minimization of fuel consumption. This literature review will help to develop a more fuel efficient management model independent of those which were discussed here and will further lead to the minimization of fuel consumption in aviation industry. Further the model will also consider the fuel consumption during the ground operations.

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