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Journal Audience and Readership

Palmetto Review is targeted toward both academicians and business professionals. The academic audience is interested in applied business-related research to use as a tool to enhance teaching and classroom experiences for students. The professional/ practitioner audience is interested in sharing experiences about a broad range of business-related topics. Topics for publication may be drawn from a variety of areas including manufacturing, service, government, health care and education. A section of the journal is devoted to chronicling quality initiatives.

Journal Mission

Palmetto Review supports communication and applied research about business-related topics among professionals and academicians in South Carolina and the Southeast.

Journal Content

Published annually by the University of South Carolina Upstate, the journal contains peer-reviewed papers. All papers accepted are blind reviewed by at least two individuals. Letters to the editor and book reviews may also be published.

Authors are discouraged from submitting manuscripts with highly statistical analyses and/or strong theoretical orientation. Simple statistical analyses, tables, graphs and illustrations are encouraged. Please see the "Guidelines for Authors" on the inside of the back cover of this journal.

Comments on published material and on how the journal can better serve its readers are solicited.
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2008 REVIEW BOARD

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From the Editor

Quality is . . .

Continuing to Learn. A benefit of editing this journal is having the opportunity to read a variety of papers submitted by colleagues from all business disciplines. The 2008 issue was a pleasure to edit because of the diverse issues investigated.

John Stancil has written a wonderful article about "reverse taxes." His explanations and comparisons to the historic foundations for the development of good tax policy are thought-provoking. John's insight certainly increased my understanding of the issues surrounding tax policy, especially during the recent discussions about gasoline taxes.

Two international authors, Hesham A.E. Magd and Natalaya Myetyelsk, are contributors to this year's journal. Hesham has written a companion paper for his 2005 *Palmetto Review* article, "Empirical Analysis of Quality Certification: The Egyptian Hotels' Experience." He now offers similar information about the Egyptian manufacturing sector ISO 9000 implementation. Natalaya Myetyelsk joins Edward J. Lusk in "An Evaluation of the Forecast Accuracy of Target Prices."

John White, William Levernier and Morgan Miles investigate a question of interest to most business school faculty members, "Is Early Research Productivity a Predictor of Long-Term Research Productivity? A Case of Finance and Marketing Faculty." Perhaps their research will motivate colleagues in other disciplines to investigate the same question.

James Lawler and Bel Raggad present their findings concerning curriculum development for information systems students. They plan to integrate their curriculum methodology into an advanced program in computer science and information systems in the near future.

Complementing the array of subjects investigated in *Palmetto Review* 2008 is Robert Nale's article, "Do Employees Understand Employee Manuals?" Bob and his co-authors, Dennis Rauch and Peter Barr, confirm what many of us have thought… employees may not have the reading skills necessary to understand the policies and procedures in their employee manuals.

This year's journal certainly provides interesting and diverse reading material. I hope that you enjoy learning from the articles as much as I did.

Best wishes for a productive and successful 2008-2009 academic year!

Sincerely,

Lilly M. Lancaster

William S. Moore Palmetto Professor in Quality Studies

TAX POLICY AND REVERSE TAXES

John L. Stancil
Florida Southern College

ABSTRACT

Sales tax holidays in various forms have become quite popular with state legislatures and taxpaying citizens in recent years. Adding to these are other tax schemes to give something back to the taxpayer – most notably tax rebates and refundable tax credits. These "reverse taxes" have had various degrees of success in achieving the stated purposes. This paper first examines what authorities consider good tax policy. Next, several of these reverse taxes, both enacted and proposed are studied. Finally, the paper evaluates these reverse taxes in light of accepted principles of good tax policy.

INTRODUCTION

In recent years, there have been an increasing number of sales tax holidays, tax rebates, or other tax schemes to "help" the average taxpayer, to stimulate the economy, to return a surplus to the taxpayers, or achieve some other goal. Sales tax holidays have taken on many forms, from exempting sales taxes on back to school items, to exempting sales taxes on hurricane supplies, or simply a blanket tax holiday on all purchases up to a certain amount. Tax rebates are given to income tax payers in general or for targeted purposes. The Federal Tax Code contains a number of tax credits, some of which are refundable credits and are considered in this same arena. Other proposals have been made but not enacted for a variety of reasons. For purposes of this paper, the options discussed are referred to as "reverse taxes."

There is some debate about the effectiveness of these "reverse taxes." This paper will consider the effectiveness of these, but that is not the main thrust of this effort. There are certain principles that are considered to constitute good tax policy. Although there is no universal definition of what constitutes a good tax, there seems to be general agreement on the structure, if not the form, of these principles.

This paper presents various principles to assist the reader in understanding of what are the common, basic principles of good tax policy (Section 1). After defining a "good tax", the next section (Section 2) focuses upon "reverse taxes." Each of these "reverse taxes" are then evaluated in view of the principles of good tax policy (Section 3).

SECTION 1. TAX POLICY PRINCIPLES

In his 1776 classic, The Wealth of Nations, Adam Smith set forth four principles that should guide the making of tax policy. These principles serve as the foundation for today's tax policy decisions. These principles are:

- The subjects of every State ought to contribute toward the support of the Government as nearly as possible in proportion to their respective abilities.
- The tax which each individual is bound to pay ought to be certain and not arbitrary. The time, manner, and amount of payment ought to be clear and understandable to the contributor and to every other person.
- Every tax ought to be so levied either at the time or in the manner in which it is most likely to be convenient for the contributor to pay it.
- Every tax ought to be so contrived to both take out and keep out of the pockets of the people as little as possible over and above what it brings into the public treasury of the State (Tax Analysts, 2006).

In today's terminology, we see these principles in the broad objectives of Equity, Simplicity, and Efficiency (Tax Analysts, 2006). In 2001, the American Institute of Certified Public Accountants (AICPA) issued a Tax Policy Concept Statement outlining a framework for evaluating tax proposals. This framework listed ten guiding principles of good tax policy. The AICPA states that the ten principles are all of equal importance (AICPA, 2001) but it is noted that the first four stem from Adam Smith's tax policy maxims.

The AICPA (2001) "Ten Guiding Principles of Good Tax Policy" are:

- Equity and Fairness – Similarly situated taxpayers should be taxed similarly.

• Certainty – The tax rules should clearly specify when the tax is to be paid, how it is to be paid, and how the amount to be paid should be determined.
• Convenience of payment – A tax should be due at a time or in a manner that is most likely to be convenient to the taxpayer.
• Economy in collection – The costs to collect a tax should be kept to a minimum for both the government and taxpayers.
• Simplicity – The tax law should be simple so that taxpayers understand the rules and can comply with them correctly and in a cost-efficient manner.
• Neutrality – The effect of the tax law on a taxpayer's decisions as to how to carry out a particular transaction or whether to engage in a transaction should be kept to a minimum.
• Economic Growth and Efficiency – The tax system should not impede or reduce the productive capacity of the economy.
• Transparency and Visibility – Taxpayers should know that a tax exists and how and when it is imposed upon them and others.
• Minimum Tax Gap – A tax should be structured to minimize noncompliance.
• Appropriate Government Revenues – The tax system should enable the government to determine the amount and when tax revenue will likely be collected.

In an Organisation for Economic Co-operation and Development (OCED) Policy Brief (March 2006), the issue of "Reforming Personal Income Tax" was addressed. In this report, the OCED emphasizes three overriding issues that must be addressed in the arena of individual income taxes: efficiency, horizontal equity, and simplification. The authors apparently feel that the tax system is out of balance with these principles in particular, and are attempting to restore some balance in the application of tax policy principles in the area of personal income taxation.

C. Eugene Steuerle, in his book, <u>Contemporary U. S. Tax Policy</u>, expounds six basic principles of tax policy, which he labels "Principles of Public Finance." These principles are similar to principles expounded by others. However, Steuerle lists his six principles in a basic, foundational setting and builds on those principles. Rather than list "equity" as a principle, Steuerle breaks it into two separate entities, recognizing the differences between horizontal and vertical equity.

Horizontal equity, he states, is almost universally accepted as a principle. By horizontal equity, Steuerle asserts that those with equal ability pay equal taxes. Referring to this as the "queen of all principles affecting government policy," he states that politicians pay homage to this principle, but frequently side step it. Even when one group is favored by a tax policy, horizontal equity is achieved internally within that group. As an example, if the law allows a deduction for charitable contributions, the group making such contributions is the favored group, receiving specialized treatment compared to other taxpayers. However, horizontal equity is applied internally to those with the group, allowing a charitable contribution for all who make such contributions (Steuerle, 2004).

Vertical equity is the principle that those with greater ability to pay should pay more in taxes. This is reflected in our income tax system of progressively higher marginal tax brackets as income increases. It is argued that this is a desirable principle, as those in lower economic brackets cannot afford to pay an equal share for the support of the government. Given this premise, Steuerle then asserts that the issue then becomes not whether government should be involved in a redistribution of wealth, but the progressiveness of that redistribution (Steuerle, 2004).

Efficiency suggests that programs should not operate in a way that makes someone better off at the expense of making someone else worse off. This situation can rarely be achieved in the tax policy arena. However, the argument is made that tax policy in this area must seek to produce gains in the overall economic output even at the expense of losses to some individuals. Since by their very nature, taxes distort behavior, efficiency is lost as this change in behavior increases. Therefore, the principle of efficiency should seek to minimize these changes, not eliminate them. Taken a step further, it is stated that the changes in behavior that occur should be justified by gains from the programs the taxes support (Steuerle, 2004).

The principle of **individual equity** states that individuals are entitled to the fruits of their own labors and a fair return on their investment. Whenever mandatory taxes are levied, this principle is violated, as there is no quid pro quo (Steuerle, 2004). However, this is a principle that government cannot reasonably expect to achieve. The best that can be hoped for is to minimize the violation of individual equity.

Steuerle's fifth principle is that of **simplicity**. He states that since government does not exist to simplify itself, the issue is what weight the principle is given in the legislation and administration of tax law. Complexity in the tax system arises as government pursues various objectives. Therefore, the road to simplification is to eliminate tax preference or subsidies. Transparency is enveloped in the principle of simplicity. This states that the purpose of tax policy and the mechanisms of who pays and does not pay be presented in an open manner (Steuerle, 2004).

Raising of revenues is presented as the final principle with the acknowledgement that it is more of a goal rather than a principle, but due to its primacy, it cannot be overstated and is therefore elevated to this status. Steuerle relates revenue raising to efficiency in the sense that government must pay for what society needs and avoid the economic costs of unsustainable deficits. Simply put, raising of revenues allows government to achieve it purposes and run its functions (Steuerle, 2004).

In a section entitled "The Government Principles," Steuerle does not list a number of principles related to government, but examines the process of creating tax legislation. He laments that the process often fails to give principles of taxation their due. One reason cited for this is that policies are developed by offices that lack knowledge of, or concern for broader tax principles (Steuerle, 2004). Tax policy is enacted to correct a problem, to achieve a social objective, and to enact economic objectives in addition to raising revenues.

This brief study demonstrates that there is no universal standard, or agreement, on what should be included as principles of good tax policy. However, there appears to be a common foundation, expressed in different terms. For the purposes of this paper, it seems that six of the principles are particularly relevant in the analysis of the concept of reverse taxes. Therefore, this paper evaluates the various "reverse tax" legislation and proposals using the following tax policy principles:

- Horizontal equity.
- Vertical equity.
- Efficiency.
- Economy of Collection.
- Simplicity.
- Economic growth.

This list incorporates Adam Smith's foundational principles of equity (horizontal and vertical), simplicity, and efficiency. Economy of collection is sometimes combined with efficiency, but is evaluated separately, as it is an important aspect of reverse taxes. This paper includes the principle of economic growth due to the current trend of using taxation for purposes other than revenue raising and its relevance to the concept of reverse taxes.

SECTION 2. "REVERSE TAX" LEGISLATION AND PROPOSALS

Reverse taxes may be categorized as sales tax holidays, Social Security holidays, rebates, fuel rebates or moratoriums, and refundable credits. Some were enacted, others merely proposed and rejected.

Sales Tax Holidays

Sales tax holidays began in 1997 in the state of New York. For a one-week period in January, the state suspended the 4% state sales tax on most purchases of clothing and shoes. In signing the bill, former Governor George Pataki claimed that this legislation would "put more than $20 million in the pocketbooks and wallets of New Yorkers." Florida began the practice the following year, followed by Texas in 1999. As of 2006, thirteen states plus the District of Columbia had had sales tax holidays (Davis, 2001).

These holidays frequently coincide with either back-to-school or Christmas shopping. Massachusetts joined the bandwagon in 2005 with a holiday in August exempting sales tax on all purchases up to $2,500. The first Massachusetts holiday was only one day, a Saturday. The following year it was extended to two days to accommodate observant Jews who do not shop on Saturdays (Reidy, 2005). Although this holiday is relatively short, it does have a great deal of simplicity in that, all items below the $2,500 threshold are excluded. Since the only criterion is the dollar threshold, the merchant's task of collecting tax on included items is simplified.

North Carolina's three-day holiday in August has a laundry list of excluded items and dollar amounts. Excluded is clothing with a sales price of $100 or less, sport or recreational equipment with a sales price of $50 or less, computers with a sales price of $3,000 or less, computer supplies with a sales price of $250 or less, and school supplies with a sales price of $100 or less (North Carolina, 2006). This approach requires definitions of what constitutes clothing, sports and recreational equipment, computers, computers supplies, and school supplies. Then, merchants must properly interpret the explanations and apply them to their situation. The state provides lists of included items, but includes the caveat that the lists are not all-inclusive. This approach also burdens the merchant with the task of collecting the tax on excluded items, while excluding the tax on included items. This holiday has continued with the excluded amount on computers being raised to $3,500 (Wolf, 2008a).

Georgia enacted a conservation-focused sales tax holiday in 2005. For a four-day period in October 2005, certain "Energy Star" merchandise was exempt from the state sales tax. Included were "Energy Star" qualified dishwashers, clothes washers, air conditioners, ceiling fans, fluorescent light bulbs, dehumidifiers, programmable thermostats, and refrigerators with a price below $1,500. This limit applied to each item purchased. If the items cost in excess of that amount, the entire purchase is taxable. In addition, this did not exempt local sales taxes (Georgia, 2005). This holiday created some difficulties for merchants. They were required to identify eligible "Energy Star" appliances, set the $1,500 ceiling, and still collect the local tax on these items. This holiday has been repeated annually through 2008 (Office of the Governor, 2007; Georgia Environmental Facilities Authority, 2008).

As one of the early entrants to the sales tax holiday fray, Florida has tried a number of approaches. The original tax holiday in the Sunshine State was in 1998, exempted clothing, and was about a week in duration. The holiday was not held in 2002 or 2003 due to budget problems, but returned in 2004. For 2006, the holiday was July 23-31, and exempted state and local sales taxes on clothes, footwear, books, and certain accessories valued at $50 or less. In addition, certain school supplies of $10 or less were exempt. This approach does relieve the merchant from having to collect local and not state taxes, but the merchant must accurately determine which items are exempt. The economic impact of this holiday saved taxpayers an estimated $45 million in state and local taxes (Royse, 2006).

In the wake of hurricanes Charley, Frances, Jeanne, and Ivan in 2004, the Florida State Legislature enacted a second tax holiday in 2005, which was repeated in 2006. For a ten-day period prior to hurricane season, this sales tax holiday exempts certain hurricane supplies from state and local taxation. There are several dollar thresholds for purchases to be included within the exemption. They are qualifying items selling for:

- $10 or less – Blue ice or items sold as artificial ice.
- $20 or less - Portable self-powered, light source, battery-powered flashlights, battery-powered lanterns, gas-powered lanterns, and tiki-type torches and candles.
- $25 or less – Any gas or diesel fuel container.
- $30 or less – AAA, AA, C, D, 6 volt, 9 volt batteries, coolers, and ice chests.
- $40 or less – Cell phone chargers.
- $50 or less – Radios, two-way radios, weather radios, tarpaulins, plastic sheeting, ground anch or systems, tie-down kits, bungee cords, and ratchet straps.
- $60 or less – Cell phone batteries.
- $75 or less – Carbon monoxide detectors or any package consisting of 2 or more of the previously listed items.
- $200 or less – Storm shutter devices.
- $1,000 or less – Portable generators (Florida, 2006).

Merchants do not collect local taxes, as they are also exempt. However, the task of properly determining which items are exempt can be daunting, given the numerous dollar thresholds. Both Florida holidays were repeated in 2007 (Alexander, 2007). Due to budgetary constraints, Florida eliminated the hurricane holiday for 2008 but maintained the back-to-school tax break (Kennedy, 2008).

Other states having sales tax holidays in 2005 included Iowa, Missouri, South Carolina, and Texas. For 2008, fourteen states plus the District of Columbia have scheduled tax holidays (Wolf, 2008a). These tax holidays are similar to the back-to-school holidays previously discussed with one notable exception. Missouri's enabling legislation make the tax holiday permanent every year beginning the first Friday in August and ending the following Sunday (Gada, 2005). Most tax holidays are annual events, with the legislature approving the holiday on a year-to-year basis.

Social Security Holidays

As a part of an economic stimulus package, a proposal was made to enact a one-month holiday for employers and employees from paying Social Security payroll taxes. This proposal has numerous problems, not the least of which is the reprogramming of payroll programs so that tax would not be deducted from employees' pay. In addition, the IRS and Social Security Administration would need to prepare new forms for what amounts to a one-time use (Davis, 2001b). The anticipated benefit to employers and workers is $38 billion. This would only be for the Social Security portion, not the Medicare tax. The loss to the Social Security Trust Fund would be covered through a transfer from the general treasury (Davis, 2001a). This is a plan that would benefit both individual workers and businesses as both parties are receiving a tax break. From a macro viewpoint, however, one must realize that the decrease in tax social security tax collections would be paid with borrowed funds, as the general treasury is currently running a deficit.

Rebates

Rebates, both actual and proposed, have taken many forms over the years. Common to all of these is that a taxpayer receives a rebate, or refund, of taxes paid in for a given period. These programs vary in the amount of rebate and the basis on which the rebate is determined.

The federal government provided rebates in 2001 amounting to a windfall of between $300 and $600 for taxpayers and totaled $38 billion. These rebates were received by approximately two-thirds of American households. Research indicated that the average household spent 20 to 40 percent of the rebate on non-durable goods and that two-thirds of the rebate was spent during the quarter of receipt. Specifically households spent an additional $51 on food and $179 on non-durable goods. This represents a 2.7 percent food increase and a 3.2 percent increase in expenditures on non-durable goods (NBER, 2005). These results indicate that the rebates did not result in one-time purchases of appliances, equipment, or similar goods. Instead, consumers used a large portion of the rebates to treat themselves to consumables. Congress approved an additional economic stimulus rebate in January 2008. This rebate is up to $600 per taxpayer plus $300 each for dependent children (Stancil, 2008). Although most Americans state an intention to save the funds or pay off debts, it is expected that two-thirds of the rebate will be spent within six months (Linn, 2008).

Oklahoma paid a rebate of $45 to individuals and $90 to couples in 2005. In order to receive the rebates one had to file a 2004 return, claim a personal exemption, and not be a prison inmate (Knapp, 2006). Timed for receipt during the Christmas season, one questions how effective this small amount was as an economic incentive. Nevada enacted a rebate for 2005 that was implemented in two stages. The first payment of $75 went to individuals age 65 or over on January 1, 2005 who had a Nevada state identification card, but had no vehicle registered in the state. Stage Two sent payments to taxpayers (individuals and businesses) who had a vehicle registered in Nevada during 2004. This rebate was either $75 or the amount of basic governmental services tax registration fee paid by the taxpayer up to $275 per vehicle (IRS Fact Sheet). The purpose of this rebate was to return to the taxpayers some of the 2004 budgetary surplus. The rebate raised the unintended consequence of taxable income for Federal purposes to some of the recipients (IRS Fact Sheet).

Fuel Rebates/Moratoriums

As gasoline and other fuel prices have increased, there has been an increased demand to do something to help the working person. There is no shortage of proposed or enacted rebates in this area. At the forefront was a proposal before Congress to send rebate checks of $100 to "at least 100 million taxpayers" (Tax Analysts, 2006). At today's prices, this would cover less than two weeks of gas for the average consumer. Although billed as a gas rebate, it apparently has no relationship to gas purchases.

New Mexico enacted a 2005 "Income Tax Energy Rebate." The purpose of this rebate was to help citizens offset the rising costs of gasoline and heating fuel. However, the amount of the rebate was dependent on the taxpayer's adjusted gross income and the number of exemptions claimed. The rebate varied from $64 to $289 (Goodman, 2006). In addition to being an income tax rebate under the guise of energy relief, this was a complicated rebate that likely created a great deal of work on the part of the Department of Revenue in issuing the rebates for the proper amounts and confusion on the part of taxpayers about the amount of rebate to be received. New York Governor George Pataki called for a $500 heating fuel credit to "thousands of seniors across New York." Idaho Governor Dirk Kempthorne proposed sending a $50 energy-relief check to every resident. Washington Governor Christine Gregoire offered some perspective on these various proposals. "While the roller coaster is fun at the amusement park, it is no model for state budgeting" (Solomon, 2006). The "energy rebates" discussed to this point have no apparent linkage to energy consumption, but are simply a device to assist the taxpayer. Therefore, they will not be evaluated as general rebates.

In 2004, Florida enacted a moratorium on its eight-cent gasoline tax for the month of August. According to the American Automobile Association, gas prices decreased by 11 cents in Florida, while the national average was a 2.3-cent drop, so it would appear that consumers received the benefits. The cost of this moratorium was $59.7 million. General revenues were diverted to the State Transportation Trust Fund to make up for the lost revenues and fund road maintenance (Florida, 2004). In September 2005, Georgia suspended its motor fuel taxes. This was accomplished by an executive order by Governor Sonny Perdue and subsequently approved by the state legislature (Office of Georgia Governor, 2005).

A proposal for a two-month moratorium on the Nevada's 17.7-cent gas tax was made in that state with the shortfall in taxes coming from the state's "rainy day fund." Nevada Senate Majority Leader Bill Raggio expressed concern over the lost revenues, stating, "We can't go too far in draining the fund. If gas prices are still up after two months, what would we do? We can't just continue draining the fund" (Riley, 2005).

Oklahoma Senate Pro-Tem Mike Morgan proposed a three-month suspension of that state's 17-cent gasoline tax. This would have amounted to a $103 million break for motorists but, interestingly, the proposal does not include a suspension of the state's 14-cent diesel fuel tax (Pitts, 2005).

James May, chief executive of the Air Transport Association, lobbied Congress for a one-year holiday from the 4.3 cents per gallon tax on aviation fuel in order to help the struggling airline industry cope with high fuel prices (Geewax, 2005). This would have given the airlines an estimated $600 million break, hardly enough to be a significant boost to the troubled industry.

Refundable Credits

Although the federal government has enacted a number of tax credits into the tax code in recent years, only two are refundable credits for individuals – the earned income credit (EIC) and the additional child tax credit. With both of these credits, the taxpayer can receive more refund than has been withheld over the course of a year, resulting in a negative income tax. The EIC is available to taxpayers whose income falls below a certain dollar amount and meets other criteria. The additional child tax credit applies to taxpayers with either more than two dependent children or who received less than the full amount of the child tax credit (IRS, Publication 17). The EIC can be as high as $4,400 and the additional child tax credit can be as much as $1,000 per child.

SECTION 3. "REVERSE TAXES" EVALUATED

The "reverse tax" legislation and proposals presented in Section 2. "Reverse Tax" Legislation and Proposals will be evaluated in the following section using the criteria discussed in Section 1. "Tax Policy Principles." The results of the evaluation are presented in Table 1.

Sales Tax Holidays

Sales tax holidays meet two policy principles – *horizontal equity* and *efficiency*.

Horizontal equity From one view, sales tax holidays do not violate this principle, as everyone receives forgiveness of sales taxes based on the amount of exempt purchases. However, those with greater resources may make larger expenditures and have a greater amount of taxes forgiven. Although not perfectly met, sales tax holidays appear to meet this principle at least as well as most taxes.

Efficiency Those who receive the greatest amount of tax forgiveness are the ones benefiting from the sales tax holidays. It is difficult to determine whom, if anyone, suffers economically as a result. The sales tax holidays create a revenue shortfall, a portion of which may be recaptured through increased sales. The remainder of the shortfall is covered by reduced governmental expenditures or by transferring funds from another existing revenue source. Since no specific group can be identified as suffering economically, this principle is met by sales tax holidays.

Table 1. Policy Principles Applied to Reverse Taxes

REVERSE TAX TYPE/POLICY PRINCIPLE	***Social Security Holidays***	***Fuel Moratoriums***	***Sales Tax Holidays***	***Rebates***	***Refundable Credits***
Horizontal Equity	**Meets principle**	**Meets principle**	**Meets principle**	Does not meet principle	**Meets principle**
Vertical Equity	Does not meet principle	Does not meet principle	Does not meet principle	Does not meet principle	Does not meet principle
Efficiency	**Meets principle**	**Meets principle**	**Meets principle**	**Meets principle**	Does not meet principle
Economy of Collection	Does not meet principle	**Meets principle**	Does not meet principle	Does not meet principle	Does not meet principle
Simplicity	**Meets principle**	**Meets principle**	Does not meet principle	**Meets principle**	Does not meet principle
Economic Growth	**Meets principle**	Does not meet principle	Does not meet principle	Does not meet principle	**Meets principle**

Social Security Holidays

Social Security Holidays meet four policy principles, more than any other type of "reverse taxes." The principles met are *horizontal equity, efficiency, simplicity, and economic growth.*

Horizontal Equity The sales tax holiday proposal would result in a degree of horizontal equity as employees would receive reduced social security taxes directly proportional to the level of their income for the holiday month. However, self-employed individuals would receive twice as large a reduction as they bear the employee and employee portions of the tax. This means that two individuals, one an employee and the other self-employed would receive differing benefits with the same level of income. Additionally, employers would receive benefits in proportion to the level of their payroll, so it is generally true that horizontal equity is present in the social security holiday proposals.

Efficiency Any wage-earning individual, whether an employee or self-employed would benefit from the Social Security holiday proposals. Likewise, any company with employees would benefit. It is difficult to pinpoint whom, if anyone, would be damaged by this proposal, as the shortfall in social security taxes would be taken from the general treasury. Therefore, the Social Security holiday proposal meets the efficiency principle.

Simplicity Social Security holidays are an easily understood type of reverse taxes. The tax is simply not collected for a given period. Although there are certain to be areas of uncertainty, these do not appear to be difficult hurdles to overcome or understand. Even though there may be costs to employers in complying with this holiday, this does seem to be a simple proposal, fulfilling this principle.

Economic Growth Proponents of a Social Security holiday tout that economic growth is derived from such a holiday. Some argue that, by reducing payroll costs, employers will hire more workers giving the economy a boost (Davis, December 8, 2001). This seems to sell employers short, as the lower payroll, costs are very much transitory. However, *Food Service Director* observes that individuals will have a one-time boost in income coming in the form of a larger paycheck. This may result in an upsurge in consumer spending, especially in retail stores and restaurants around the country (Food Service Director, 2002). The fact that the additional income is received through the regular channel of a paycheck and not in the form of a "bonus" rebate check may lend some credence to this argument. Therefore, it appears that a Social Security holiday may give an economic boost.

Rebates

Rebates meet two of the policy principles, *efficiency* and *simplicity*.

Efficiency As with previous reverse tax proposals evaluated, rebates usually come from the general treasury so identification of any group that suffers economically is difficulty to determine.

Simplicity Most of the rebate legislation pays a fixed amount to taxpayers or other identified groups. With full access to tax return data, this is a relatively simple process in determining both eligibility and the amount of the rebates. Admittedly, this may consume a significant amount of time.

Fuel Moratoriums

Fuel moratoriums meet the principles of *horizontal equity* and *simplicity*.

Horizontal Equity Fuel moratoriums on gasoline taxes do result in a semblance of horizontal equity, as the amount of forgiven taxes is in proportion to the consumption of gasoline. Therefore, individuals using more fuel receive more of a tax break.

Simplicity Fuel moratoriums appear to be an understandable concept in most cases. The tax is simply not paid upon purchase. For moratoriums on other types of fuel, there do not appear to be any difficulties with either the understanding or administration for consumers or merchants.

Refundable Credits

Refundable credits meet the principles of *horizontal equity* and *economic growth*.

Horizontal Equity The two refundable credits in the federal tax code are designed specifically to assist those in the lower economic brackets who pay little or no income tax. The earned income credit increases as earned income increases to a point, then decreases and phases out above a certain level of income. The additional child tax credit becomes a refundable credit only when the amount of the credit exceeds the individual's tax liability. There is an assumption of increased need as the number of dependents increase. It would appear that this principle is met, as individuals in equal economic situations would get an equal amount of the credit.

Economic Growth Refundable credits appear to have a substantial impact on economic growth. The earned income credit is the largest poverty reduction program in the United States and is seen as being particularly effective in targeting relief to only low-income working families. In addition, it increases labor force participation (wikipedia.org), refundable credits do provide economic growth.

SUMMARY

It appears that no "reverse tax" scheme meets all the proposed criteria of good tax policy. In fact, very few taxes today meet these criteria. Two types of reverse taxes, Social Security holidays and fuel moratoriums, meet four of the six tax policy principles. The other three types of reverse taxes - sales tax holidays, rebates, and refundable credits - only met two each of the six principles.

None of the five types of "reverse taxes" met the vertical equity principle. The fact that "reverse taxes" are usually distributed as a lump sum or as a percentage of expenditures results in a failure to achieve vertical equity. With its emphasis on low-income wage earners, refundable credits may be closest to achieving this principle.

Four of the five types evaluated met the efficiency criteria, with only the refundable credits failing. This is because most reverse taxes come from the general treasury and have no discernible group that is negatively impacted. If you regard all taxpayers of all types of taxes as being impacted, a case could be made that this principle is not met by any of the reverse taxes.

In terms of simplicity, three of the reverse tax methods were found to be easily understood and void of compliance issues. Failing this criteria, however, were possibly the two most significant reverse tax methods – sales tax holidays and refundable credits.

Economic growth is probably the most significant of the principles presented, given that it is the stated purpose of most of these "reverse taxes." Only Social Security holidays and the refundable credits meet this criteria.

CONCLUSION

It appears that "reverse tax" schemes will continue in the future. They are frequently politically motivated with little or no attention paid to the concept of tax principles. Indeed, given their political nature "reverse taxes," are likely to be limited only by the imagination of national and state level politics. No reverse tax enactment or proposal presented in this paper met all of the "good tax" criteria.

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AN EVALUATION OF THE FORECAST ACCURACY OF TARGET PRICES

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ABSTRACT

Target prices reported by investment banking firms and by investment advisory services for a random sample of organizations listed on the New York Stock Exchange (NYSE) were evaluated for their forecast accuracy. We used the following measures of accuracy: (1) the absolute percentage error (APE) (2) a benchmark measure called the relative absolute error (RAE). The results of the study are: (1) the target prices do not perform well in APE and RAE terms (2) there is relatively little information in the investment banking report (IRB) target prices.

INTRODUCTION

While stock acquisition recommendations and earnings forecasts of investment banking reports (IBR) have been the focus of extensive empirical research, only a scant number of studies report on the predictive accuracy of target price forecasts. This is the motivation and the point of departure for our study. We are interested in the predictive accuracy of the target prices published as part of IBR issued by investment banking firms and investment advisory service organizations.

FORECAST ACCURACY OF THE TARGET PRICES

According to Smith Barney CEO Sallie Krawcheck "The only goal of a research report is a target price. - - - They are the end result of research" (Fortune, 2003, p. 9). The target price conveys to investors the price level that a stock can reasonably be expected to reach in the future—usually in a year's time. The target price may be a single price or presented as a range of likely prices. The importance of target price information was suggested by Brav and Lehavy (2003) who reported that target prices have a significant influence on short-term stock prices, even after simultaneous earnings forecast revisions and adjustments in recommendations are taken into consideration. They found that target prices contain relatively more information regarding future abnormal returns then stock recommendations alone.

Therefore, the accuracy of target price forecasts is essential information for investors, as target prices provide information about future stock prices and so play a key role in the decision-making process. Given the importance of target prices, it is surprising that there are only a few studies dealing with target price forecast accuracy. An OR-keyword search using the terms: forecast, accuracy, target and prices on both the ABI-Inform™ and Business Source Premier™ database search systems on 29 January 2007 found only the following three articles:

• Asquith, Mikhail and Au (2004) analyzed the accuracy of target prices and the effects of the analyst's valuation methodology. They randomly collected a sample of 818 target prices published over the period 1997-1999. The sample consisted of two sub-samples. The first included 796 target prices that were above the current stock price. For this sub-sample, the following definition was used to evaluate forecast accuracy: If the stock price reached the target price at any time during the prediction horizon, they considered the prediction to be accurate. The second sub-sample was composed of the 22 target prices that were below the current market price of the stock; here, the forecast was considered to be accurate if the stock price fell to the target price. Using these criteria, they demonstrated that for the first sub-sample, 54% of the analysts' target prices were reached; in the remaining 46 % of the cases, the stocks reached on average 84% of the target price at sometime during the 12 months. For the second sub-sample, the stock prices fell to the target price in 20 of the 22 cases. They also found an inverse relationship between the target price and the level of optimism. Target prices that were above current stock prices by up to 10% and more than 10 to 20% were realized in 74% and 60% of the cases respectively. On the contrary, target prices that predicted a difference in prices of 70% or more were achieved in only 25% of the cases. Their study also showed that the valuation methodology used by analysts had no effect on the target price forecast accuracy.

- The second study by Bradshaw and Brown (2005) analyzed the prediction accuracy of 12-month target prices. Their sample included about 300,000 target prices spanning the calendar years 1997-2002. They used two criteria for determining accuracy. As for the first, they considered the target price to be accurate if the actual stock price was equal to or greater than the target price at the end of the forecasting period. For the second criterion, they considered a target price to be accurate if the target price was achieved at sometime during the 12-month horizon. They reported that, on average, 24% and 45% of the stock prices reached the target respectively given their two definitions. They also demonstrated that the higher the target price estimate relative to the current stock price, the less likely that the target price would be met. This inverse relationship was also reported by Asquith, Mikhail and Au (2004). Finally, Bradshaw and Brown found that target price projections are more accurate when: (1) market returns over the 12-month forecast period were higher, (2) analysts are more experienced and (3) the analysts are working for the biggest brokerage houses.

- Most recently, Bonini, Zanetti and Bianchini (2005) examined the predictive accuracy of target prices as a function of the recommendation issued. They used a dataset of about 7,000 analyst's reports issued for companies listed on the Italian Stock Exchange from 2000 to 2003. They concluded for their sample that the forecast errors were related to the nature of the recommendations. Specifically, the absolute percentage error for "sell" recommendations was 4% and 39% for both the "buy" and "strong buy" recommendations. Finally, they found that prediction errors were smaller for less volatile stocks, for stocks that are usually under-represented in investors' portfolios or for stocks that are not actively traded.

THE STUDY DESIGN AND SAMPLE SELECTION

We extend the results of these investigations which, except for the Bonini, Zanetti and Bianchini (2005) study, did not examine forecast accuracy in absolute percentage error terms nor did any of the studies benchmark the level of forecast accuracy. While it is true that according to the cited studies the target prices seem to be achieved "somewhere in the target price interval" the question that we are interested in is: *In and around the target price date, what is the forecast accuracy of the target price?*

Our sampling frame was organizations that were listed on the NYSE during 2003. Given a preliminary pilot study and given that we wanted to have power of 80% with alpha control of 10%, we decided to collect data from 100 organizations for the forecasting study. An organization was included in the study if it had at least two IBR that included target prices made by two different investment firms published in 2003. In addition, we collected information on a third IBR if there were three or more IBR published for a company. If a company had more than two IBRs, then we again randomly sampled among these IBR to select the third. We used as the source for IBRs Investext™. This resulted in 78 companies which had three IBRs and 22 for which there were only two IBRs. Therefore, the final sample consisted of 278 investment banking reports with target prices reported in 2003.

Recording the Actual Price

Simple as it may sound to determine the actual price, it was, in execution, rather challenging. We used as the source of actual prices an EDT from CRSP™. For target prices that were projected for one year ahead, we took as the projected date one year from the date of the IBR. If the IBR report gave an actual date for the projection, such as the end of the next year, here 31 December 2004, then we used that date. If the IBR gave a time interval, for example 12 to 18 months we took the mid-point—or 15 months hence. If the particular projection date was not a market date—i.e., weekend or holiday, then we took the average of the closest two dates for which there was market information (Actual Date). To enlarge the time-net under the assumption that perhaps an Actual Date is too restrictive in judging the forecast accuracy of a target price, we enlarged the time-internal to the month of the target price forecast. Specifically, we computed the actual stock price as the average of the actual price at the beginning and the end

Table 1. Individual projected information:

Listed Company	IBR Firm	IBR Date	Target Price	Time Horizon	Actual Day	Actual Month
IGT	Smith Barney	22 Dec 03	$35	12 Months	$34.33	35.48 34.38
Recorded Values					**$34.33**	**$34.93**
	CIBC World	4 Nov 03	$26	12-18 Months	$31.40	$31.39 $30.48
Recorded Values					**$31.40**	**$30.94**
	UBS[US]	17 July 03	$24	12	$35.23 $33.48	$37.99 $32.34
Recorded Values					**$34.36**	**$35.17**

Table 2. Grouped projected information:

Company	Target Price	Actual Day	Actual Month
IGT	$28.33	$33.36	$33.68

of the month within which the projected date fell (Actual Month). Finally, to test the possibility that combining forecasts may produce better forecasts, as has been argued by Makridakis et al. (1980), we also took the average of all the forecasts for a particular listed company and used as the time frame the average interval of the forecasts.

For Table 1, for the IBR of the IGT [International Game Technology], the date of the IBR produced by Smith Barney was 22 December 2003 which was a Monday. So the forecast date for the target price was 22 December 2004 which was a Wednesday. The price for IGT reported by CRSP™ on 22 December 2004 was $34.33. The prices on 1 December 2004 and 31 December 2004 were $35.48 and $34.38 respectively giving the average of $34.93. For the grouped information reported in Table 2, one takes the averages of the bolded values in Table 1. For example, the Actual Month of $33.68 is the average of $34.93, $30.94 and $35.17. Of special note is the computation of the value for IGT from USB. Because the projection date, 17 July 2004 was a Saturday, we took the rounded average of the Friday and the Monday prices of $35.23 and $33.48 as the value of Actual Day recorded as $34.36.

DATA ANALYSIS

To evaluate forecast accuracy we used two measures recommended by Armstrong and Collopy (1992): The absolute percentage error (APE) computed as:

APE = abs[(Target price - Actual stock price) / Actual stock price] x 100

and a benchmarked comparison called the relative absolute error (RAE) computed as:

RAE = abs[(Target price - Actual stock price)/(Naïve Forecast - Actual stock price)] x 100

The RAE uses the last recorded actual price as the benchmark forecast. For example, consider the forecast for IGT offered by Smith Barney on 22 December 2003. The benchmark forecast for 22 December 2004 would be the actual value of IGT as reported by CRSP™ on 22 December 2003. This is sometimes called the naïve forecast in that it is the simplest of all forecasts—i.e., the last recorded observed value. If one cannot materially improve upon this most naïve benchmark using a more sophisticated forecast model-

Table 3. Individual IBR forecasts

	APE Actual Day	*APE Actual Month*	*RAE Actual Day*	*RAE Actual Month*
Median	**21%**	**22%**	**99%**	**100%**
IQR	32%	32%	100%	98%

Table 4. Grouped forecast results

	APE Actual Day	*APE Actual Month*	*RAE Actual Day*	*RAE Actual Month*
Median	**16%**	**17%**	**91%**	**91%**
IQR	28%	24%	133%	103%

ing system that calls into question the effectiveness of the forecasting model. Finally, also as recommend by Armstrong and Collopy (1992), we "Winsorized" the data. This procedure replaces extreme APE and RAE values by 1% if the lowest value is less than 1%; for values greater than 100%, they are replaced by 100%. For the analysis, we report median values, inter-quartile ranges (IQR) and for testing purposes, non-parametric tests due to the numerous outliers in the APE and RAE data sets.

RESULTS

Consider first the results for the individual forecasts as presented in Table 3.

The APE medians of Actual Day and Actual Month are almost the same: 21% and 22% respectively. The p-value for the difference between them is 0.86 indicating that there is no reason to reject the null hypothesis of no difference between the forecast accuracy of Actual Day and Actual Month. Therefore, we do not see that the wider timeframe net enhances predication over the individual forecasts that were measured in a narrower time interval. To give a relative context to these results, we compared these APE results to those produced by Collopy and Armstrong (1992) which are often used as the baseline comparison for APE predictions. Their one period ahead forecasts had an APE median of 3.2%. Our results are more than 6 times larger, in APE terms, than the Collopy and Armstrong (C&A) results. If one tests our median results, 21% and 22%, against the C&A result of 3.2%, one rejects the null at a p-value <0.001, arguing that our results are statistically different from those produced by C&A. This suggests that these target prices may be sufficiently inaccurate so as to call into question the effectiveness of the modeling used by the IBR firms to generate their target prices. This is clearly borne out by the RAE analysis.

For both the forecasting nets, the RAE medians are around 100% and do not test statistically significant from 100% at an alpha-level of less than 0.1, suggesting that one is indifferent between the models used by the investment banking firms of the sample or the naïve forecast of using as the one-year ahead forecasts the stock price at the date of the IBR. This remarkable result also calls into question the utility of the forecasting methodologies used by investment banking houses in that they do not seem to be able to improve upon the most naïve forecast—i.e., to forecast the stock price in one year's time as the stock price at the time of the issuance of the IBR.

CONCLUSION

These results are simple to summarize: Given that one's perspective is the validity of the target price on the approximate date of the target price, one should place no more confidence in investment banking target prices than in the target prices produced by assuming that such future target prices are best approximated by the stock price on the date of the IBR. This surprising result suggests two possibilities:

- Perhaps the underlying generating process is sufficiently complicated in its stochastic dynamics, where one admits the behavioral finance component as a driver for market price, that the forecasting models employed are not sufficiently attuned to the actual structure in the forecasting domain.

• Or, perhaps the generating process is random and therefore no model is possible. Here, it is difficult to believe that the future price of a stock is driven by a random process given the strong autocorrelations that exist over time. The non-stationarity of time series has been established for many years going back to the initial CAPM modeling work of Sharpe (1964) and the subsequent work of Blume (1971, 1975 and 1979).

THE OUTLOOK

If the former is the case, then more sensitive modeling techniques may be needed. Here Rule Based Forecasting, Collopy and Armstrong (1992), may be an alterative that to date has not been reported as being used in the development of target prices for IBR. We would offer a research collaboration to those in the investment banking community to experiment with this promising forecasting system.

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METHODOLOGY FOR EDUCATING INFORMATION SYSTEMS STUDENTS: THE NEW PARADIGM OF SERVICE-ORIENTED ARCHITECTURE (SOA) TECHNOLOGY

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ABSTRACT

Service-Oriented Architecture (SOA) is being adopted aggressively by business firms. SOA is defined as an enabling framework for improving business processes for competitive advantage. This paper analyzes the challenges of deploying SOA through an analysis of case studies in industry and discloses that firms that lead projects of SOA with business and procedural dimensions have more success with SOA than those that lead projects with technical functionality. The paper posits a technology agnostic program management methodology that is adaptable in the information systems curricula.

INTRODUCTION

Our research into a methodology for educating information systems students on service-oriented architecture (SOA) began with an analysis of web services in 2003 – 2004 (Anderson, Howell-Barber, Hill, Javed, Lawler and Li, 2005). In that analysis, we found that firms which led projects in services with business factors, especially business benefit, customer demand and focus on process integration, had more success with web services than firms which led with the functionality of platform technology. Business strategy defined by business departments in the firms, not technology, was considered to be crucial in a web services strategy. These results were presented by us at conferences in 2004 and published in 2005. Since the completion of our analysis, we continued our research of services in 2005 - 2007, as SOA was and is being adopted by firms.

RELEVANT RESEARCH

The best of the adoptions of SOA appears, as in web services, to be based on business considerations, not on applications and technology. Consulting firms disclose constant adoption of SOA projects in industry (Daniel, 2006). Gartner Inc. forecasts 80% of development to be on an SOA model by 2008 (Gruman, 2006). Despite a current absence of firms completing a composite of all processes of a business as services, composed in *a fully deployed SOA* in a service-oriented enterprise (SOE) idealized by consultants, firms in the software industry continue to develop and extend service solutions as tactics in an assumed strategy. SOA is not considered a fad but a development as consequential to industry as the Internet (Hurwitz, 2006).

Further study is appropriate, as business firms are beginning to achieve benefits of agility and flexibility in business processes. SOA, as applications exposing functionality and information as services accessible by different business client or "consumer" departments in a firm, is a concept defined extensively now in the literature of practitioners. The distinction of SOA, in contrast to earlier technologies, is in the actual benefits now being achieved by firms.

FOCUS

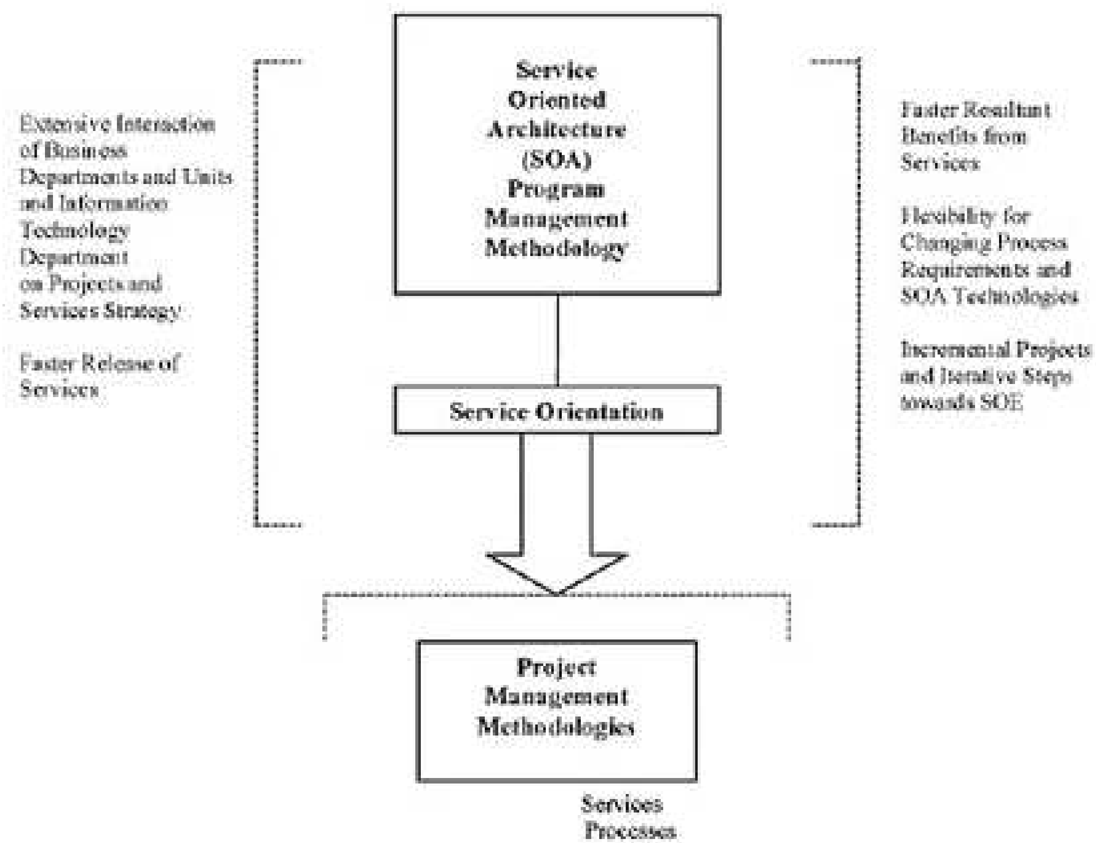
In this study we define a practical *program management methodology that can be complimentary to project management methodologies already established in business firms*. Dimensions of service orientation and SOA are customizable in the project management methodologies by application of this program management methodology. Methodologies in the firms are assumed to be agile approaches (Beck and Andres, 2005), or characteristics of agile methods enhanced for control of complex systems, that are complimentary to our program management methodology.

This methodology assumes flexibility for changing process requirements of SOA, because of external competitive conditions, customer demands or regulatory needs or due to internal technical or business needs. It advocates delivery of frequent benefits and releases of services on an incremental and iterative project path that leads to an enterprise or full firm SOE. It consists of frequent interaction of the technology and business departments in the migration to full SOE. It includes diversely skilled technical and business staff on smaller teams. This methodology is a hybrid approach, which is top-down in design from business management models and bottom-up in design from operations and platform technologies, and is appropriate for tactical and strategic SOA.

The program management methodology is an agile approach to an SOA strategy that contributes the benefits of flexibility, efficiency and agility to firms on the path to the idealized SOE, as depicted in Figure 1.The intent of the study is to define a comprehensive and disciplined *Methodology for Enabling Service-Oriented Architecture (MESOA)* program management methodology, by which instructors can educate information systems students on SOA. The intent is not to define a new methodology for SOA project management but to clarify aspects of service oriented projects that can complement project management methodologies.

The assumption, as in frequent literature on SOA (Krafzig, Banke and Slama, 2005), is that instructors can enhance elements of existing methodologies to integrate service orientation. Another assumption and distinction is that the *methodology is technology neutral*. The final assumption is that the students are already cognizant of concepts of service orientation and SOA, web services and Extensible Markup Language (XML) technologies, from earlier courses in their curricula.

Figure 1: Service-Oriented Architecture (SOA) Program Management Methodology Leading to Service-Oriented Enterprise (SOE)



PROGRAM MANAGEMENT METHODOLOGY

The program management methodology is described in frameworks of best practices for participant technical, business and corporate staff on projects of SOA. The frameworks of this methodology, displayed in Figure 2, consist of governance, communications, product realization, project management, architecture, data management, service management, human resource management, and post implementation. These frameworks are coupled or related tasks for managing a program or a project of SOA.

The frameworks evolve as the programs evolve in iterative phasing and in incremental steps towards an SOE. The frameworks are flexible for changing process requirements and technologies and for further releases of services. For a firm beyond exploration and deployment of pilot projects of web services, the formalization of the frameworks enables evolution of SOA in a fulfillment strategy towards SOE.

EXPERIMENT WITH PROGRAM MANAGEMENT METHODOLOGY

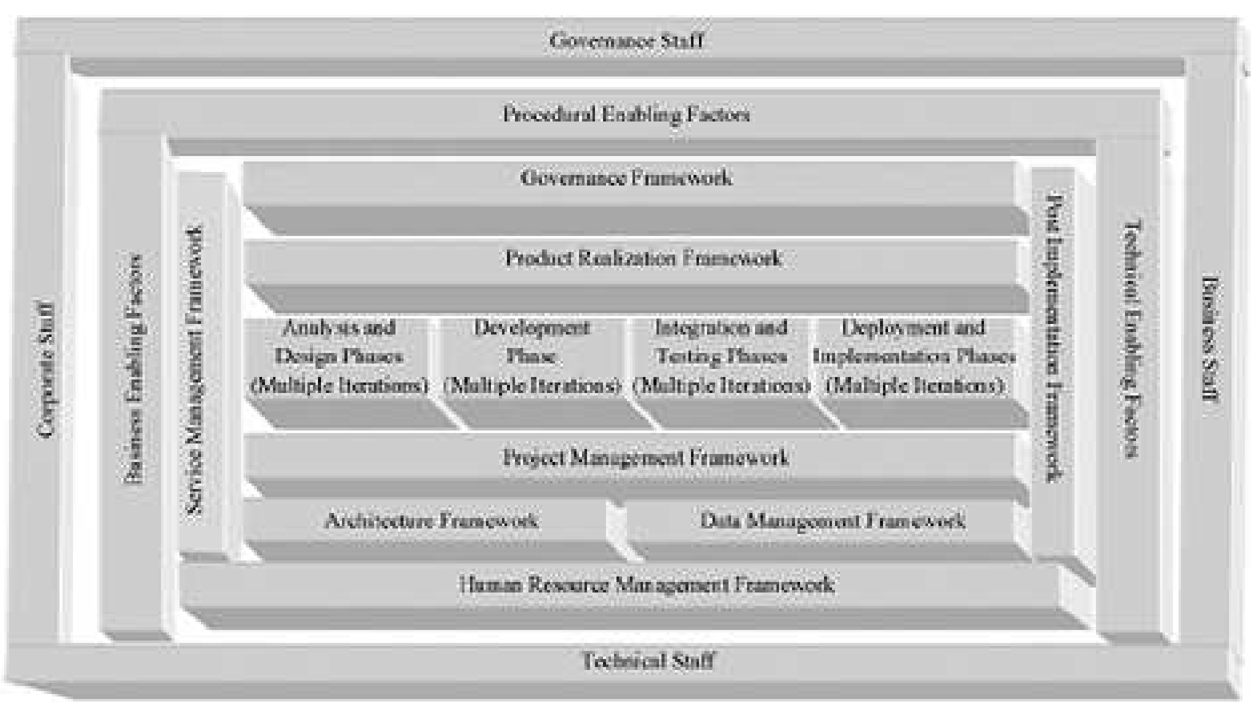
From January 2005 to March 2007, an analysis was conducted of 15 Fortune 10 – 1000 firms, based on available information on each of the firms in generic industry literature and on specific interaction with staff in a limited number of the firms. Firms were chosen from evidence of deployment of web services based on SOA (5 firms), deployment of services, integration of process and services architecture and restructuring of organizations and staff (8), and deployment of services based on SOE (2). Deployments in the firms were examples of commonly encountered practices in industry that were evaluated by us with the methodology. Firms covered the following industries: automobile (1 firm), banking (3), energy (1), healthcare (1), insurance (2), manufacturing (1), technology (2), telecommunications (2), training (1), and travel and leisure (1) industries. These firms were headquartered in the United States.

Table 1: Frameworks of Methodology for SOA

Frameworks of Methodology	High Citation	Intermediate Citation	Low Citation	Not at All Citation
Governance	4	8	3	0
Communications	3	7	3	2
Product Realization	5	5	4	1
Project Management	1	4	4	6
Architecture	7	7	1	0
Data Management	5	1	6	3
Service Management	6	6	1	2
Human Resource Management	4	4	3	4
Post Implementation	5	5	2	3
	40	47	27	21
	29.6%	**34.8%**	**20%**	**15.6%**

In the analysis, we evaluated each of the projects in each of the firms based on how effectively governance, communications, product realization, project management, architecture, data management, service management, human resource management and post implementation enabled the projects to be examples of a

Figure 2: Methodology for Enabling Service-Oriented Architecture (MESOA)



good SOA strategy. The evaluation of these frameworks was *effectively enabled at either a high, intermediate or low level of the methodology*, or not enabled at all in initiating strategy. The evaluation included identification of *key business, procedural and technical factors on the projects* that were perceived as having contributed specifically to the initiation of strategy.

EXPERIMENTAL FINDINGS WITH PROGRAM MANAGEMENT METHODOLOGY

Frameworks

The frameworks of the methodology for SOA demonstrated enablement for the projects in our studies. The projects are enabled *at a high level of methodology* (29.6%), *at an intermediate level* (34.8%), *at a low level* (20%), and *not at all* (15.6%). Table 1 displays the findings on the frameworks.

Architecture, service management, post implementation, data management and product realization are cited as enabled more frequently at a *high level* than governance, human resource management, communications and project management, on the projects. Encouraging is the higher frequency of enablement at *high* (29.6%) or *intermediate* (34.8%) levels than at *low* (20%) or *not at all* (15.6%) levels, as most of the business firms continue to evolve on their projects to deployment and exploitation of services based on SOE, as further displayed in Figure 3.

Figure 3: Maturity Levels of SOA in Firms of the Studies

Additionally encouraging are findings that key business factors (70.7%) in Table 2.1 continued to be more enabling than key technical factors (55.3%) in Table 2.3 and that procedural factors (68.4%) in Table 2.2 are also more enabling than technical factors in the frameworks of the methodology. Findings are clear that business firms in our recent studies continue to evolve in the methodology of SOA strategy.

IMPLICATIONS OF STUDY

From the results of the study, we believe that educators introducing SOA in the curricula in their schools may benefit from the emphasis on the business and procedural dimensions of SOA. Information on the technology of SOA is essential, but is not as important as business and procedural fundamentals. Key points of emphasis include:

- **Collaboration of the technology department with business departments on business process improvement projects and requirements is critical to SOA.** Collaboration on process improvement requirements if not SOA may not be effective enough in firms, contributing to the technology department becoming *the* expert on changing processes that are inherently business oriented not technical (Alter, 2006). This difficulty can cloud delineation of core enterprise goals and processes and deployed services, and current and future requirements and determination of technologies, in a competitive strategy.

- **Enterprise governance of services based on strategic planning and initiated by the Chief Information Officer (CIO) in cooperation with the business units of the firm can ensure reusability of services in an SOA.** To do this, the CIO cannot be perceived as a pure technologist, as that contributes to the perception of the technology department as not a strategic function nor a strategic player in the firm (Alter, 2006). The CIO who can contribute to business strategy is one who can continue educating and engaging proactively the sponsors in the executive suite and those in the business units (Smith, 2006) on the importance of SOA and the impact of new SOA technologies. This CIO can be a leader

(Hugos, 2006) in the improvement of enterprise processes and instrumental in strategy.

- **Evolution of functionality on incremental projects of SOA contributing immediate benefits can be a prudent SOA strategy, and focus on service standards at the beginning of programs and projects of SOA can help in the foundation of an SOA strategy.**

- **Focus on service orientation training of technical staff and business staff and continuous technical training of technical staff are crucial for implementation of SOA strategy.** For technical staff, substantial training in business process and firm and industry strategy is as important if not more important as technology training, in order for this staff to optimize processes with SOA technology. Training may include integration of SOA centers of excellence and communities of practice of technical and business staff, and councils of expertise of the technical staff (Alter, 2006), for improving synchronization of technology strategy with business strategy.

- **SOA is a feasibly strong proposition for a business firm**. Firms that hesitate in investing adequately in an SOA program may be hindered by not having competitive processes that might furnish an improved proposition of service to their customers and trusted partners. Managers might evaluate processes in their firms for future competitive advantage in their proposition and focus investment in SOA technology towards those processes.

Table 2.1: Key Business Factors for Enabling Frameworks of Methodology

Business Factors	**Citation Frequency**
Agility, efficiency and flexibility benefits	14
Financial benefits	13
Business client participation	11
Competitive, market and regulatory differentials	11
Customer demand	11
Culture of innovation	11
Organizational change management	8
Executive sponsorship	6
Executive business leadership	4
Executive technology leadership	13
Strategic planning	12
Enterprise architecture	4
Focus on improvement of process	12
Service orientation	15
Reusability of assets	14
	70.7%

Table 2.2: Key Procedural Factors for Enabling Frameworks of Methodology

Procedural Factors	**Citation Frequency**
Control of program	14
SOA center of competency	6
Responsibilities and roles	12
Education and training	8
Knowledge exchange	11
Change management	12
Information management	12
Common reference	11
Naming conventions	9
Procurement of technology	9
Technology firm knowledge capture	2
Risk management	14
Standards management	10
Infrastructure architecture	15
Process and service deployment environment	12
Process and service deployment techniques	15
Service catalog management	6
Service management and support	12
Security management	14
Continuous process improvement	9
Costing techniques	8
Strategy management	5
	68.4%

Table 2.3: Key Technical Factors for Enabling Frameworks of Methodology

Technical Factors	**Citation Frequency**
Internal web services on project	1
Internal process domain on project	4
Internal SOA domain on project	11
External process domain on project	5
External SOA domain on project	12
Business process management product software	13
Data tools	6
Middleware	12
Platform of key technology firms	13
Platform specialty tools from platform technology firm	11
Proprietary technologies	9
Best-of-class tools	7
XML standard	13
Messaging standards	13
Service description and discovery standards	9
Transaction standards	3
Security standards	9
User interface standards	3
Web services best practices	9
Web services management standards	3
	55.3%

LIMITATIONS AND OPPORTUNITIES FOR RESEARCH

This study is positioned as a proposition for a new program management methodology to be included in curricula on the evolving paradigm of SOA technology. The findings of the studies in industry indicate that a new methodology that integrates procedural and business fundamentals of projects of SOA is more important than functionality of technology. These findings need extension in a further study of the methodology in the curricula with instructors and students and of the outcomes. The next step is to integrate program management methodology into the advanced curricula of a program in computer science and information systems.

CONCLUSION

This paper analyzed the challenges of deploying service-oriented architecture (SOA) through studies of industry. Findings indicated that firms that lead projects of SOA with business and procedural factors have more success than those that lead with functionality and technology. The paper posited a program management methodology on SOA that may be integrated into the curricula, so that information management students may be up-to-date with the practice and theory of SOA.

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IS EARLY RESEARCH PRODUCTIVITY A PREDICTOR OF LONG-TERM RESEARCH PRODUCTIVITY? A CASE STUDY OF FINANCE AND MARKETING FACULTY

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ABSTRACT

This study examines the research productivity of new doctorates in two major business fields, finance and marketing. The purpose is to determine if it is reasonable to assume that a faculty member with no publications at the three-year point of their career will earn tenure and promotion and be "academically qualified" at the six year career point. In our sample of 92 new doctorates in finance and marketing from 1997 that had no publications by 2000, only one averaged a publication every other year by 2006.

INTRODUCTION

> "Say you are a dean or a provost, and you have agreed to offer a tenure-track position to a department's favorite faculty candidate…. The favored candidate is A.B.D., all but dissertation, and the "plan," if it works, is for her to complete her Ph.D. by the end of her first semester on the job… Well the deadline approaches, and the department head wants to talk about our fabulous new faculty member. You see, the final work on her dissertation hit a snag. Nothing to worry about, of course…" (Drew, 2007).

When is a business faculty member most productive from the perspective of research? A newly minted Ph.D. should possess the advantages of cutting edge quantitative methods and a grasp of the discipline's theoretical foundations. In addition, they also have recently completed their dissertation, with a typically massive literature review and data set, from which to author a series of related articles in a relatively short period of time. There is also the additional pressure to publish that comes with being untenured. However, new Ph.D.'s are often novices in the world of academic publishing, reviews, rejections, and re-submissions, which requires time, perseverance, and experience to successfully progress along the publishing learning curve.

New faculty learn the craft of authoring a manuscript for journal submission, while at that same time defining a set of topics in which they develop research capabilities within. In addition, while more seasoned faculty often tend to focus on field journals that have an editorial focus on a specific topic, less experienced faculty may tend to submit to the more general journals in their discipline that may have been required reading for many graduate students. Often, articles that are selected for use in doctoral classes are from the field's most prestigious journals, and these journals tend to have very high publication standards.

One of the most difficult decisions facing senior university faculty is whether to retain or not retain a junior faculty member. Currently, some institutions are attempting to use a third year review process to help inform the junior faculty and their departmental colleagues on their performance. The three-year mark is halfway to the customary tenure decision in year six. While the third year review may not provide a complete picture on the faculty's performance potential in the areas of research, teaching, and service it can help illustrate current and potential weaknesses.

In most AACSB International accredited institutions the decision is dependent on some combination of the faculty's performance in teaching, research and service. While research focused schools, with graduate programs, tend to have higher requirements in research, most AACSB accredited schools require their participating faculty to be active in at least a modest level of research activity.

So which is it: fast out of the gate or a slow progression toward publication productivity? One of the reasons this is important is the tenure process itself. Many schools have a pre-tenure midterm review at the end of the third year of employment, with the full tenure evaluation in the sixth or seventh year. This third year review captures what we term the "Golden Three Years" – those years that a faculty typically has both the resource base (from their dissertation and course work) and the motivation to rapidly craft papers for journal submission. If successful, researchers start with early publication success resulting in then several articles accepted for publication prior to the mid-term review. If the articles are not in evidence, then that may also provide insight into the faculty member's future scholarly productivity. A terminal contract may be offered rather than allowing an unsuccessful tenure application.

Even if a terminal contract is not offered to a non-publishing junior faculty member after their third-year review, the review will suggest a positive tenure decision will not result unless there is a significant change in research productivity. The junior faculty member, realizing their job is in jeopardy, begins to search for a new position. Since job searches are time consuming, this faculty member now has less time for writing than before. With their focus on the job search, it is not surprising that that less time is also dedicated to classroom preparation and teaching. Thus begins a downward spiral of diminished teaching quality and less time dedicated to research.

In an attempt to enhance the publication success of their graduates, some doctoral programs in business require a peer-reviewed publication before the doctorate will be conferred. This insures that the new faculty member will have been through the entire publication process, writing, submission, review, revise and re-submit, and finally manuscript acceptance. There is some benefit to realizing that there are any number of steps between writing a paper and having it published. However, to require an accepted manuscript as a doctoral degree requirement would exacerbate the already critical shortage of business doctorates. The current practice of initial submissions coming from your dissertation, perhaps with your dissertation advisor (or another senior faculty member) as a co-author, seems to have been successful for the most part in the past.

AACSB accreditation is a second reason publications are important. New business doctorates are considered "academically qualified" by AACSB for five years without publications. After five years, publications are required to validate that the faculty member has remained academically qualified (AQ). AACSB International allows business schools to set their own standards for faculty maintaining AQ status based on the institution's mission. Shinn (2008) notes that each school must "demonstrate the impact of faculty intellectual contributions to targeted audiences," suggesting that for schools with a more applied mission, a portion of the faculty's intellectual contribution should be directed towards business practitioners. For schools with doctoral programs in business, on the other hand, the relevant metric might be the number of citations an article generates. The informally acknowledged AACSB publication guideline is two to three articles in five years, which is roughly an article every other year. This study uses five articles in ten years from the date the doctorate was earned as the indicator of publication success. The suggested hypothesis is:

H1: Faculty that fail to publish at least one article by their third year ("fail-early) are not likely to meet a standard of 5 articles in 10 years.

LITERATURE REVIEW

The research productivity of individual academics or of academic departments is a topic that has been widely examined in the literature using a variety of statistical methods. Many studies have examined the research patterns of economists (Barbezat, 2006; Barnett, Ault, and Kasserman, 1988; Bodenhorn, 1997; Davis, Houston, and Patterson, 2001; Davis and Patterson, 2001; Fender, Taylor, and Burke, 2005; Fish and Gibbons, 1989; Hartley and Monks, 2001; Hutchison and Zivney, 1995; Maske, Durden, and Gaynor, 2003; McDowell and Melvin, 1983; McDowell and Smith, 1992; Piette and Ross, 1992; and Taylor, Fender, and Burke, 2006). Some studies, though, have examined the research patterns of finance academics (Zivney and Bertin, 1992) or marketing academics (Powers, et. al., 1998). While most studies have focused on U.S. academics, some have examined British academics (Euwals and Ward, 2005) or Australian academics (Fox and Milbourne, 1999).

The starting point of any research productivity study is measuring the quantity of research for which an individual or an academic department should be credited. While this may seem a straight-forward matter, a variety of approaches has been employed in prior studies. Many studies adjust for the number of authors when counting publications (Bodenhorn, 1997; Conroy, et. al., 1995; Davis and Patterson, 2001; Fender, Taylor, and Burke, 2005; McDowell and Melvin, 1983; Piette and Ross, 1992; and Taylor, Fender, and Burke, 2006). Commonly, when a publication has n co-authors, each co-author is either given credit for 1/n articles or, if the number of published pages is the variable of interest, each co-author is given credit for 1/n of the total pages. Some studies include only publications in refereed journals or in a subset of high quality refereed journals, but some (Barbezat, 2006; Davis, Huston, Patterson, 2001; and Hartley, Monks, and Robinson, 2001) also include additional publications, such as books, textbooks, book chapters, and non-refereed articles when measuring research productivity

The academic rank and the years of experience (or years since earning the Ph.D.) are generally found to affect an individual's research productivity. Barbezat (2006) found that both factors positively affect productivity, regardless of whether productivity is measured as total publications, total articles, or refereed articles. Bodenhorn (1997), Hartley, Monks, and Robinson (2001), Hutchinson and Zivney (1995), and Powers, et. al. (1998) also find that productivity rises with experience for various types of publications. These studies support the notion that publication skills develop over a career, and research output will increase over time.

Other studies reach the opposite conclusion. Fender, Taylor, and Burke (2005) and Taylor, Fender, and Burke (2006), measuring productivity as the number of quality-adjusted publications per year since earning the Ph.D., found that productivity diminishes with experience, supporting the findings of Manske, Durden, and Gaynor (2003), who found that productivity, measured as the total number of articles published, increases at a decreasing rate with experience. This supports the "fast out of the gate" pattern of publication success and gives credence to the "golden three years" terminology.

THE CASE OF FINANCE AND MARKETING

The present study uses a very simply methodology. For marketing we used the Spring 1997 American Marketing Association Job Placements (http://docsig.eci.gsu.edu/whowhere.htm) list of students. We then looked at the number of journal articles that were published in three years by new faculty members (including co-authorships until and including articles published in 2000), then the number published in total (up until November 7, 2006) using the EBSCO HOST database. For finance students we used the 1999/2000 Prentice Hall *Finance Faculty Directory* and then tracked the publication records of the 1997 graduates for three years and then in total using the EBSCO HOST database. For each discipline, there was no adjustment for co-authorship, which is consistent with AACSB's view of publications. A co-authored publication counts as a publication for each author. This treatment of co-authorship is consistent with many colleges' promotion and tenure standards. It is also the most generous method of assigning credit for publications. If a faculty member is not publishing by this completely unadjusted measure, then they are not publishing in peer reviewed journals at all.

FINDINGS

The findings in both marketing and finance support our hypothesis. Faculty members that do not have at least one publication in their first three years most often do not achieve five in the remaining seven years (which would give them the five articles in ten years). In marketing, only one out of 31 "fail-early" faculty that graduated in 1997 that had failed to publish an article by 2000, published 5 or more articles in total. In finance, no faculty member who failed to published in their "golden three years" (n=61) was able to have 5 or more articles published during the time period under investigation.

CONCLUSIONS AND IMPLICATIONS

Our findings suggest, based on aggregating data in marketing and finance, that there is only a 1/92 chance of a "fail-early" faculty member being successful in creative scholarly contributions. This suggests that it is not reasonable to expect a faculty member to have 5 articles by their tenth year if they fail to have 1 article in print by year three. From a career standpoint, it is critical for a newly minted doctorate to obtain that first publication early.

Does this suggest that a "fail early" faculty member should be given a terminal contract at the end of their third year and allowed to start their career over at a different school? This rule-of-thumb would be fair to both the department and the faculty members. Nothing predicts success like success and if a faculty member was unable or unwilling to put forth the required effort to publish early in their career it is very doubtful that they will ever be a productive scholar. Time is simply not on their side. Many schools make the tenure decision in the sixth year. If you have zero publications after three year, you have only years four and five to obtain publications, since the tenure process will occur at the beginning of year six. A non-productive faculty member will recognize that a positive tenure decision is unlikely, so they will spend much of their time and energy searching for another position. This reduces their publication efforts even more, which compounds their lack of publication success.

A terminal contract after three years is not meant to be seen as heartless. Rather, it saves all of the parties involved the pain of a negative tenure decision. Denying assistant professor tenure implies both sides have failed. The focus is most often on the assistant professor, who did not meet the department's expectations. However, the onus is also on the department that failed to develop this junior faculty member to their potential. The terminal contract after the third year gives the junior faculty member a chance to get a fresh start, as well as a fresh six-year tenure clock, at another school.

SUGGESTIONS FOR FURTHER RESEARCH

This study looks at a single cohort, 2006 doctorates, in only two business disciplines, marketing and finance. This study looked at this particular sample because the data were readily available to the authors. The data also represented the authors' respective disciplines. Before business school bylaws and tenure requirements are rewritten, the study obviously needs expansion to other disciplines and other time periods. The results of this sample are so overwhelming that the topic clearly deserves additional research. If these results are replicated when other business disciplines are examined, it would be interesting to ascertain if the results remain consistent for non-business disciplines.

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DO EMPLOYEES UNDERSTAND EMPLOYEE MANUALS?

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ABSTRACT

The issue of functional illiteracy is examined in terms of how it might influence an employee's ability to understand the employee manual at a place of employment. Since organizations, as a rule, assume that understanding has taken place, the use of three readily-available readability formulae may shed some light on whether or not such an assumption is warranted. Some of possible impacts of such a literacy gap are discussed, as are some organizational responses to this issue.

INTRODUCTION

Have you ever been in a situation where you were trying to read and make sense of something that you just couldn't quite get? It could be something fairly simple like a menu at an upscale ethnic restaurant, or your cell phone manual, or even more likely, tax instructions from the IRS. Often, even though we may struggle a bit, and maybe even make a couple of assumptions which turn out to be wrong, it's usually not a disastrous situation. We recover from it rather easily. But imagine, instead, if you were confronted with this same sort of dilemma every day in your workplace. You are responsible for completing tasks for which you have adequate instructions in terms of a policy or procedure, but you can't make sense of the instructions. We're not talking about someone who is illiterate in the commonly-accepted notion of the term. Rather, this illustrates a phenomena which is known as "functional illiteracy" (or occasionally ''workplace illiteracy"). Unfortunately, this is a mounting problem in the U.S.

Just how widespread this problem has become is reflected in a rather startling statistic that suggests that 48% of the United States' working-age population is functionally illiterate (Uranga, 2004). Similar data have been reported in several major U.S. cities over the years. Clearly, what we seem to be seeing here is a situation where employees are increasingly ill-equipped with the appropriate academic skills to handle many of the tasks which most of us either take for granted, or at least *have* taken for granted over the years. For example, such things as making sense of written organizational benefit explanations, sexual harassment policies, and understanding some product warning labels become problematic for such individuals. In academic terms, the U.S. Department of Education suggests that more than 40 million Americans who are 16 years of age and up have reading and writing skills which are classified as "rudimentary" (McGarvey, 1999).

This is a perplexing problem in light of the fact that the U.S. Census Bureau reported just a few years ago that over four-fifths of all adults 25 years of age or older have earned at least a high school education ("Educational Attainment in the United States: 2003"). Similar results were reported in 1989, but suggested that even though the U.S. had one of the highest levels of educational attainment, it ranked very low (49th) in literacy levels (Mcllvoy, 1989).

More recently, the International Adult Study of Literacy (IALS) reported that adults in the United States "demonstrate a mediocre level of literacy skills" ("How Do U.S. Literacy Levels Compare to Other High-Income Countries?", 2002). In comparing literacy skills by education level between the U.S. and 20 other high-income countries, it has been reported that for all levels of education below a bachelor's degree, adults in the U.S. ranked at or near the bottom of the list on almost every literacy measure (Sum, Kirsch, and Taggart, 2002). It is only when one looks at the rankings of adults over the age of 36 that somewhat more encouraging results are seen. At a time when so many states take such great pains to publicize the SAT or ACT scores obtained by graduating high school seniors, one must wonder why such differences are observed. One possible explanation is that a high school degree does not seem to provide the same level of skills today as may have been the case several years ago, a point to which we will return shortly.

LITERACY AND FUNCTIONAL LITERACY

When looking at an official definition of literacy, several reinterpretations have taken place over the years, the most recent being the ability to read at about an eighth-grade ability (Smith, 1995). While even now it is probably true that an eighth grade reading level might well be adequate for performing many jobs, it is equally true that we have been seeing an increasingly larger number of jobs which require reading levels of 11th grade or higher (Feldman, 1991). One can easily see how the skills of our employees become critical in moving organizations, and, by extension, the economy, forward.

The term "functional literacy" expands the concept to one of an array of skills, abilities, and knowledge which are unified by conventional literacy (Goddard, 1987). In other words, it is not simply about learning the alphabet so much as it is about learning how to *use* your knowledge of the alphabet to perform productively in an organization. This is actually in line with the International Adult Literacy Survey's 1994 definition of literacy as the ability to understand and use written information to function in society, to achieve goals, and to develop knowledge and potential (Krahn and Lowe, 1993). No matter how one defines it, this appears to be an alarmingly widespread problem area.

While there is little debate that the U.S. has been very successful in reducing the numbers of adults who are totally illiterate, the examples cited certainly seem to suggest that we are far from adequately addressing the number of those whose literacy levels impede their ability to be as successful and/or productive as we might wish in light of the demands of today's workplaces. Keeping in mind the observations made earlier regarding literacy definitions over the years, it may well be that the gap between what we identify as simply "literacy" and "functional literacy" may be decreasing considerably. While we are obviously concerned with handling more technologically sophisticated work processes in the daily exercise of ones' job, this also includes individuals who are potentially unable to complete tasks such as completing job applications, balancing checkbooks, and correctly following anything but the simplest of instructions (Callahan and McCright, 1995).

THE IMPACT OF FUNCTIONAL ILLITERACY

While there are clearly social implications, there are also some serious economic concerns about illiteracy. Consider, for example, that the American Management Association reported that more than one-third of job applicants tested for basic workplace skills failed, in the sense that they were unable to read instructions, write reports, and/or do arithmetic at levels adequate to perform common workplace-related tasks (Galvin, 2001). Over the past several years, a number of estimates of the costs attributed to these deficiencies suggest that losses in such areas as productivity, errors, absenteeism, tardiness, missed opportunities, and workplace accidents run into the billions of dollars annually (See, for example, Maxwell, 2004; Galvin, 2001; and, Sunoo, 1999). Other potentially costly results have been suggested as well. As an example of a less obvious potential cost, it is common for employees to make an effort to hide deficiencies, which often result in their seeming aloof, angry, or anxious around co-workers, thereby increasing the possibility of negative working relationships (Tyler, 1996).

ORGANIZATIONAL RESPONSES TO THE PROBLEM

It has been estimated that businesses spend upwards of $60 billion in training costs. However, in terms of addressing the issue of functional illiteracy, it has been suggested that companies are actually doing surprisingly little to deal with this problem (Baynton, 2001). In a 2000 American Management Association survey, only 13% of organizations offered remedial training to employees in different aspects of literacy was down from a high of 24% in 1993. At the same time, that same survey revealed that 38% of applicants lacked the necessary reading, writing, and math skills to do the jobs they sought, which represented a 15% increase over two years previous (Baynton, 2001). One might argue that given the scope of training needed for non-literacy related tasks; this is probably not too surprising.

Indeed, while many organizations may easily (albeit grudgingly) accept the need for various kinds of training programs tied to the development and/or enhancement of specific skills (e.g., quality improvement, or team training), literacy-related programs often tend to be embraced far less enthusiastically. It is neither uncommon nor, for many, particularly astonishing that many managers feel that employees should possess those skills when they reach the workplace. If they do not, the reasoning goes; it should not be the company's responsibility (Maruca, 1996).

For those companies that do provide such training, there are several success stories. Benefits which have accrued to these companies include such things as improvements in employee morale, quality, team performance, abilities to cope with change, and abilities to use new technology, as well as decreased error rates and absenteeism. Even though there are some reports of difficulties in identifying employees who need to take part in such programs, Don Ford of Training Education Management suggested that despite some concerns about how useful such programs might be in a manufacturing environment, at least one manufacturer turned their worst performers into some of their best performers ("Can You Measure the Business Impact of Literacy Training?", 2004). For 30 employees, the total value of the program was about $230,000 with a less than $40,000 total training cost. In addition to the obvious skill enhancements of the training, success was also attributed in part to the Hawthorne Effect, whereby the employees' productivity increased as a result of their having been singled out for individual attention.

States are paying attention to this situation as well. In Ohio, for example, the North Coast Education Service was hired in 1997 to examine literacy levels in a number of companies with the aim of recommending and implementing specific training programs. The result was that almost 70% of the workers involved reported improvements in math and/or reading skills, which translated into improved work accuracy, more confidence, a greater sense of company loyalty, and ultimately a more efficient workforce (Baynton, 2001). Also, South Carolina has been in the forefront of states addressing this problem. Through collaborative efforts between the South Carolina State Department of Education, the Office of Lifelong Learning and the Greenville County school district, The Workplace Resource Center was founded in response to the National Literacy Act of 1991 (Smith, 1995). It was the first center in the United States to be dedicated to workplace education, and continues to fulfill that mission to this day. As one might expect, just as with organizations, potential statewide benefits include the possibilities of higher rates of economic growth, tax revenues, and overall development (Jones, 1996).

As academicians, the authors see evidence of literacy deterioration on a daily basis in students' apparent inability to read and write with what used to be the expected level for university students. While we have chosen to concentrate on the reading aspect of literacy, that is obviously only one piece of the puzzle. A few years ago, one of the authors went to a local fast-food restaurant where faculty members were given a 10 per cent discount. Since the restaurant's computer happened to be down at that time, all prices had to be computed manually with calculators. Giving a 10 per cent discount proved to be an enlightening exercise in that nobody at the counter (including the 30-something year old manager) was capable of performing the necessary calculation. Fortunately, a young high school student was found in the burger preparation area that was able to successfully (and accurately) determine the correct price. The other employees were clearly in awe of this individual's ability. While in one sense this encounter is somewhat amusing, it is ultimately a rather sad commentary.

HOW IS READABILITY EXAMINED?

Most organization members have at least one thing in common when it comes to their employment - an employee manual or handbook. While these may or may not attempt to spell out everything the employee should know about their employment, they do provide some pretty important guidelines. We felt it might be interesting to look at some employee manuals to measure how "readable" they were. Since most employers, reasonably so, assume that their employees have read and understood this important and critical information, we wondered whether or not one should *expect* that such an outcome is likely. The vehicles we have chosen for measuring that are some readily-available readability indices.

Determining readability is not a particularly difficult task these days. Indeed, some of the most popular and widely used word processing software programs, such as Microsoft Word and Corel's WordPerfect, incorporate one or more such formulae in their grammar checking tools. A wide range of such formulae exist and they have been used and validated extensively over the years (Guillemette, 1987; Klare, 1984). Briefly, readability itself describes the ease with which a document can be read, and readability formulae measure certain features of text which are then subjected to various mathematical calculations. Specifically, they use methods which include at least one semantic factor (the difficulty of words) and one syntactic factor (the difficulty of sentences.) These variables are assessed by counting language variables in a piece of writing, and in most cases the formulae employed are relatively simple ones, and are considered sufficient for most purposes ("Everything You Ever Wanted to Know About Readability Tests But Were Afraid to Ask").

Simply because they are more widely available and have been accepted as valid and representative of readability, we chose three specific formulae - the Gunning Fog Index (GFI), the Flesch-Kincaid Grade Level formula (F-K), and the Flesch Reading Ease Score (FRE). The results obtained in each are keyed to expected competence in student grade levels with elementary school normally comprised of grades 1-5, middle school grades

6-8, and high school grades 9-12. Grade levels greater than 12 would indicate college or university work.

Both the GFI and the F-K results are expressed in a very straightforward manner, with each result representing a particular grade level. In other words, a result of 12, for instance, indicates that understanding that writing sample requires a reading level keyed to the 12^{th} grade.

The third formula (the FRE) seeks to provide essentially the same kind of comparison, but does it in a slightly different manner. The evaluation produces a score which must be translated into an approximate grade level, as shown in Table I.

Table I. An Interpretation of Flesch Reading Ease Scores

Reading Score	Difficulty	Grade Level
90-100	Very Easy	4^{th} grade
80-90	Easy	5^{th} grade
70-80	Fairly Easy	6^{th} grade
60-70	Standard	7^{th} - 8^{th} grade
50-60	Fairly Difficult	Some high school
30-50	Difficult	High school-college
9-30	Very Difficult	College level and up

The conventions suggested in readability analyses are that at least three passages of at least 100 words each should be tested in order to arrive at an average test score. This design was utilized in our original study. The advent of computer technology, however, makes such an analysis both easier to accomplish and (hopefully) more representative in the sense that larger passages may be analyzed. We have chosen to concentrate on several similar types of employee related information contained in three different organizations. While each organization shares the characteristic that they tend to hire a number of employees with high school degrees or less, they exist in different industries: two (B and C) are public utilities, while the other (A) is a large employer in the tourism industry.

Two observations are in order at this point. First, one approach which might be undertaken by an organization is to essentially ‘’write down” to their target audience. In other words, if literacy levels are assumed to be low, the style of writing employed is remedial in nature. As organizations continue to experience lower skill levels in employees, one assumes that this has undoubtedly occurred. While some employees may find such an approach offensive, that is not universally true. Recall our earlier observation - many of us would be delighted to have electronics manuals and tax form instructions written at much lower levels!

Secondly, we would caution that this analysis may not be as representative as it may appear on the surface in the sense that all of these readability formulae were calibrated with student scores on standardized tests several years ago. Frankly, some suggest that it may well be that a high school graduate today actually possesses *less* literacy skills than those in years past. Based on data reported earlier, the discrepancies observed in different age level groups tend to support such an assumption. In other words, it is quite possible that even though the analysis of a given document might suggest that a twelfth-grade reading level (i.e., a high school graduate) is appropriate, it might be prudent to at least consider the point that the average twelfth-grade student may *not* understand the information as well as we might assume.

RESULTS

For comparison purposes, twelve (12) selections were made from the employee manuals of each of the three companies previously mentioned. As might be expected, each company’s manual addressed similar topics, although in slightly different ways. Our intent was to identify several topic areas which were common to all three, as well as some which appeared to be of some interest to that particular company. Because of the ease of performing this evaluation on large blocks of text, we were also able to perform an overall readability analysis of each document in its entirety. The results are presented in Tables II through IV. (When interpreting the Tables, keep in mind that both the GFI and the F-K results are keyed to the number of years of education, while the FRE scores must be interpreted according to Table I.)

We should mention that previous research has found that the readability indices, while not always in complete agreement, do tend to provide fairly similar results in terms of appropriate grade level (See for example, DuBay, 2004). While this was not entirely the case in this analysis (i.e., the F-K scores are consistently lower in terms of readability than the other two), the correlations among the three measures are consistently very high and all are significant ($p<.01$). n fact, the mean scores for the twelve passages compare well to those of the overall manual for each company. Using the overall scores as the standard, only the mean scores for the GFI and the F-K for company B are significantly different ($p<.05$). Both the mean scores for the selected passages and the overall manual scores suggest the need for at least a high school to college level education.

TABLE II. Readability Formulae Results - Company A

Passage	*GFI*	*F-K*	*FRE*
Harassment	17.3	14.0	20.9
Substance Abuse	16.0	12.6	45.4
Family Medical Leave	14.4	12.1	48.3
Vacation	13.3	10.6	57.1
Sick Leave	11.3	8.3	74.9
Employment Termination	11.1	8.1	61.5
Tuition Reimbursement	11.0	10.5	47.9
Attendance/Tardiness	14.9	13.0	46.2
Safety	16.1	13.6	30.3
Employment at Will	7.9	6.8	68.5
Media Policy	18.6	14.0	10.4
Right to Inspect	16.6	13.5	31.0
Overall Manual:	**13.6**	**10.7**	**46.9**
Mean of all 12 Passages:	**12.7**	**12.3**	**45.2**

TABLE III. Readability Formulae Results - Company B

Passage	*GFI*	*F-K*	*FRE*
Harassment	17.7	14.0	17.1
Substance Abuse	18.6	14.0	35.0
Family Medical Leave	17.2	14.0	39.2
Vacation	13.3	11.0	49.2
Sick Leave	13.7	11.3	57.1
Employment Termination	13.7	10.9	47.9
Educational Benefits	16.0	12.4	43.6
Deferred Compensation	16.3	12.2	35.7
Supplemental Health Benefits	12.4	9.8	47.7
Vehicle Usage Information	13.5	10.8	54.4
Pre-employment Physicals	16.6	12.9	44.2
Performance Evaluations	17.2	13.9	39.3
Overall Manual:	**13.8**	**11.1**	**48.3**
Mean of all 12 Passages:	**15.5**	**12.3**	**42.5**

TABLE IV. Readability Formulae Results - Company C

Passage	*GFI*	*F-K*	*FRE*
Harassment	18.1	13.3	21.1
Substance Abuse	17.4	13.1	34.9
Family Medical Leave	15.6	12.3	44.1
Vacation	12.2	10.3	57.0
New Employee Information	16.7	13.3	33.7
Code of Ethics	17.7	13.3	31.4
Work Rules	14.1	11.8	39.3
Attendance/Tardiness	17.1	13.2	31.6
Safety	17.7	13.3	23.0
Tools & Work Equipment	14.4	10.9	49.0
Physical Exams	16.7	12.5	40.5
Performance Evaluations	17.6	13.3	27.7
Overall Manual:	**15.2**	**12.3**	**41.2**
Mean of all 12 Passages:	**16.3**	**12.6**	**36.1**

DISCUSSION

The results of the analysis of these three companies' employee manuals seem to clearly imply that either a minimum of a high school reading comprehension level, or something very close, is necessary, although these levels vary much more widely from individual passage to passage. Given the fact that all three organizations do tend to hire a number of employees with high school educations or lower, these results are not particularly surprising. Of course, this is an exploratory study, so any interpretation of the findings, especially as they might relate to any organizational training implications, should be made with great care.

As mentioned earlier, there is a larger, perhaps even more important question which remains unaddressed and unresolved - does the average high school graduate actually read at a high school graduate level as measured by these readability formulas? These formulae were calibrated with student scores on standardized tests several years ago. Indeed, given the "re-centering" of SAT scores which was undertaken several years ago, as well as the aforementioned differences in functional literacy found in different age groups, one must at least consider the possibility that students taking the test today may not be expected to achieve the same test scores as the original reference group from 1941.

This latter point, when considered in light of the decrease in scholastic aptitude tests (SAT) verbal scores since the original SAT reference group of 1941, suggests that perhaps at best, these readability results may be misleading. Designed to measure both language and mathematical abilities, both the SAT and American College Test (ACT), are administered to students who are usually in the 11th or 12th grade, and the results are used as a part of many college and university acceptance decisions. It has been suggested that this decline may be a function of many things; e.g., a de-emphasis by school systems on careful reading and writing, basic literacy skills like grammar, syntax, and spelling, and the influence of popular culture through television. Since similarly significant decreases have not been observed in scores in the mathematics portion of the test, this explanation certainly seems to make sense. (Indeed, a study by the *American Educational Research Journal* finds some influences resulting from the progressive simplification of language in textbooks (Ravitch, 1996)).

So what should an organization do? Certainly, some have opted to provide some sort of functional literacy training which focuses on employee comprehension of specific manuals and reading materials which the employee would encounter on the job. Also, some organizations take it a step further and meet with employees in an attempt to explain items of importance which influence their working environment. Both are, of course, somewhat short-term (and expensive) in nature. This leads to a rather unfortunate, and undoubtedly unpalatable challenge to organizations: should employees be "written down" to or should organizations attempt to provide the kind of training necessary to bring employees up-to-speed in literacy skills?

A long-term solution is, of course, to work outside organizational boundaries to help bring about a large-scale reversal in this trend. It is clear that regardless of the approach taken, it will not be accomplished without incurring added costs. Obviously, each organization must carefully factor these into their cost/benefit analysis. From an economic standpoint, there are very real gains to be had in areas such as productivity increases, reductions in work-related accidents and turnover, and even increases in both job and customer satisfaction. While many managers may not look forward to the prospect of implementing such training, it appears clear that some attention to the situation is warranted.

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AN EXPLORATORY STUDY OF ISO 9001: 2000 IN THE EGYPTIAN MANUFACTURING SECTOR

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ABSTRACT

The globalization of the marketplace, together with the expansion of international trade, and rapid improvement in high quality products and services has brought about an increased level of market pressure around the world. To be efficient and competitive in today's business environment, the majority of organizations are being encouraged not only to change their old operational habits, but also to adapt quality processes such as ISO 9001: 2000.

The ISO 9000 series is one of the most frequently company implemented strategies concerning quality around the world. ISO 9000 is a subject of focus in many developing countries, including Egypt. The literature review offers many diverse opinions on ISO 9000 in different countries but little empirical research has been carried out in Egypt concerning ISO implementation issues, such as critical success factors of ISO 9000 implementation and the problems associated with the implementation. The purpose of this study is to assess the critical success factors and problems associated with ISO 9001: 2000 implementation through an empirical survey of the Egyptian manufacturing sector. The present study suggests that top management commitment is a critical success factor in the implementation of ISO 9001: 2000, while the need to change the existing quality system to fit ISO 9001: 2000 and resistance to the introduction of ISO 9001: 2000 are other significant problems facing Egyptian manufacturing organizations.

INTRODUCTION

The globalization of markets and inter-dependence of businesses has led to an increasingly competitive marketplace. In this respect, many organizations have realized the benefits of the quality revolution and in particular the management of quality (Tripathi, 2005; Santos and Escanciano, 2002; Awan and Bhatti, 2003). Changes in the commercial environment have led to a situation in which it is increasingly difficult to compete on price. The product/service must be attractive to the consumer, satisfying customer expectations arising both before and after the moment of purchase (Escanciano et al., 2001). To compete in today's business environment, the majority of organizations are encouraged not only to change their old operational habits, but also to adapt quality inititatives such as ISO 9001: 2000.

ISO 9001: 2000 has formalized an effective system for evaluating the ability of any firm to consistently design, produce, and deliver quality products/services (Sun et al., 2004). ISO 9001: 2000 provides guidelines for organizations to establish their quality systems by focusing on procedures, control, and documentation (Sun et al., 2004). Therefore, the objectives of ISO 9001: 2000 is the provision of consistency in products, meeting customer and regulatory requirements and having systems that address customer satisfaction, continual improvement, prevention of non-conformity, and the adoption of a system approaching Total Quality Management (TQM) (Goetsch and Davis, 2005). ISO 9001: 2000 is based on the concept that certain minimum characteristics of a quality management system can be usefully standardized, giving mutual benefit to suppliers and customers, and focusing on process rather than product/service quality (Van der Wiele et al., 2005). ISO 9000: 2000 is perceived as a management control tool, a driver of innovation, and plays a strategic role within organizations in focusing and ensuring the delivery of quality products/ or services (van der Wiele et al., 2005). The literature agrees that the benefits of ISO 9000 implementation include profit increases, customer satisfaction, continuous improvement, process improvement and marketing benefits. All these benefits may contribute to economic development to both business sectors and countries.

However, there are many diverse opinions on ISO 9000 implementation in different sectors and countries as they may vary according to different variables and organizational culture (Magd, 2005). Moreover, Magd (2005) investigated several issues related to ISO 9000 implementation in the Egyptian hotel industry and these issues include motivation for implementation, level of satisfaction with the standard, and the anticipated developments after ISO 9000 implementation. The study suggested that the main reason for ISO 9000 certification is internal improvement, which includes quality improvement of products/services; quality improvement of internal operations; and development and refinement of quality policy. The sample under investigation was satisfied with the standard and the standard was viewed as effective, ie., the benefits derived from certification are greater than the costs.

Since there is still little empirical research conducted in Egypt concerning ISO implementation issues, this study is a continuation of this previous study (Magd, 2005). This study focuses upon the manufacturing sector and may provide insight into the implementation of the standard in the Egyptian manufacturing industry. Egyptian mnaufacturing output accounts for more than 20% of the Gross Domestic Product (GDP), and employs about 20% of the active labor force. The Egyptian manufacturing sector has great importance for many reasons, including:

- creating jobs for people and decreasing the negative impacts of unemployment.
- developing the skills and knowledge of the workforce.
- achieving high added value.
- achieving economic prosperity and raising the Egyptian standard of living.
- increasing the Egyptian production and service capacity.
- decreasing import gaps.

The results of this study may be useful for further improvement of quality management practice. In addition, it will complement the authors' previous study of the Egyptian hotel industry (Magd, 2005) with both studies providing a full picture of ISO 9000 implementation in Egypt and recommendations for implementation of the ISO standard.

RESEARCH PROBLEM: ISO 9000 CERTIFICATION IN EGYPT

The Egyptian government and the business community have placed a great emphasis on achieving superior quality in order to compete in both domestic and foreign markets through a quality assurance system. More and more European and foreign buyers have become frustrated with verifying the quality of Egyptian goods purchased, a costly and time consuming process. Therefore, the Egyptian government and consulting firms have asctively persuaded Egyptian companies to seek ISO 9000 certification to ensure product/service quality. Moreover, the quality standard has become a subject of interest in Egypt due to the fact that ISO 9000 has been used widely throughout Europe, the USA and worldwide as a nationally and internationally accepted quality standard (Tan and Lim-Teck Sia, 2001). As shown in Table 1 Egypt ranks second among the leading eight Arab countries in ISO 9001: 2000 certification/implementation from 2001 - 2004. During the same period, the United Arab Emirates (UAE) had 819 firms followed by Egypt with 810 firms certified. However, during 2005–2006, the picture of ISO 9000 implementation changed and Egypt gained first place regarding the rate of implementation. These two countries have a large number of foreign companies, and this factor contributes to the higher proportion of ISO 9001: 2000 certification. Table 1 also highlights the significance of ISO 9000 certification in the Arab World, a reflection of their adapting products and services to global market requirements. This may result in greater competitiveness, growing market share and higher export prices. In addition, it may result in improved resistance to undesirable low quality imports or in increased competitiveness for attracting investment or procurement and stimulating economic development.

Table 1: ISO 9000 certification in the Arabian World

Country	2001	2002	2003	2004	2005	2006
United Arab Emirates	112	407	892	819	963	**1040**
Egypt	18	222	754	810	1326	**1928**
Saudi Arabia	6	131	247	394	642	**710**
Morocco	14	46	64	296	403	**457**
Jordan	27	34	112	278	293	**248**
Oman	25	32	86	250	267	**311**
Tunisia	12	30	119	123	380	**585**
Kuwait	**11**	**7**	**25**	**101**	**111**	**141**

RESEARCH METHODOLOGY

To explore the critical success factors and the associated problems of ISO 9000 implementation in Egypt, a questionnaire was sent to a sample (n=120) of ISO 9000: 2000 certified Egyptian manufacturing firms. The research population consisted of the quality managers of the certified manufacturing firms. An initial response rate of 70 per cent (84 participants) was achieved, with 65 per cent usable responses, representing a total sample of 78 manufacturing organizations (Table 2). The response rate was satisfactory, as Saunders et al. (1997) suggested a rate of between 30 % and 50% for this delivery and collection method.

Table 2: Breakdown of questionnaires distributed

Item	Number of Organizations	Percentage of Organizations
Total number of questionnaires sent	120	100
Total number of questionnaires returned	84	70
Incomplete questionnaires	6	5
Usable questionnaires (response rate)	78	65

SURVEY FINDINGS AND DISCUSSION

Characteristics of ISO Egyptian manufacturing certified firms

In terms of certification by sector of activity among the 78 manufacturing certified firms surveyed, engineering and electronics companies ranked first with 39 companies, representing 50% of the sample. Pharmaceutical and chemicals ranked second with 18 companies, representing 23% of the sample, followed by foods and drinks (18%), and textiles (9%) as shown in Table 3.

For the purpose of this study, organizations with less than 100 employees were classified as small, those with 100-300 as medium, and those with more than 300 as large. With respect to the size of the organizations surveyed (Table 3), 23% had less than 100 employees(small sized organizations), 32% had less than 300 employees (medium sized organizations), and 45% had a more than 300 employees(large sized organizations).

In terms of organizational ownership (Table 3), 50% (39 organizations) of the total participant organizations were joint ventures, while 32% (25) were privately or foreign owned organizations and 14% (18) were government owned. Since the majority type of ownership was joint venture, we can assume that surveyed organizations had a strong link with foreign partners.

Table 3: Characteristics of ISO Certified Egyptian Manufacturing Organizations (n=78)

Activity	Number of Organizations	Percentage of Organizations
Certification of Sector by Activity		
Engineering and Electronics	39	50
Pharmaceutical and chemicals	18	23
Food and drinks	14	18
Textiles	7	09
Total	78	100
Organizational Size		
Less than 100 employees (small)	18	23
100 – 300 employees (medium)	24	32
More than 300 employees (large)	36	45
Total	78	100
Organizational Ownership		
Joint venture	39	50
Private or foreign owned	25	32
Government owned	18	14
Total	78	100

Critical success factors for effective ISO 9000 implementation

The present study included eleven ISO 9001: 2000 implementation factors and asked participants to rate the extent to which each factor helped the surveyed organizations. The rating scale was from very helpful to not helpful at all. The results are shown in Table 4. By examining Table 4, it is clear that the most helpful factors the participants cited in the effective implementation of ISO 9001: 2000 are top management commitment; a well structured system of procedures; the firm's internal auditor; and assistance from the parent company of partner.

Table 4: Factors Supporting ISO 9001: 2000 implementation

Rank	Factors	Mean*	Std.Dev.	Level of importance
1	Top management commitment	4.75	0.56	High
2	A well-structured system of procedures	4.69	0.76	
3	The firm's internal auditor(s)	4.59	0.71	
4	Assistance from the parent company or partner	4.51	0.84	
5	Employee motivation and commitment	3.91	1.09	Medium
6	Communication between management and employees	3.87	1.15	
7	Human resource department contribution	3.81	1.19	
8	Experience with the existing quality system	2.37	2.14	Low
9	General written publications on ISO 9000	2.18	2.03	
10	Assistance from the external consultant(s)	2.04	1.65	
11	Assistance from the Egyptian government and chamber of commerce	1.05	1.19	

**The mean score is based on participants' level of agreement with each statement on a scale of 5 = very important, 4 = fairly important, 3 = of average importance, 2 = of minor importance, and 1 = not important.*

Commitment and support of top management was regarded as the most important factor in implementing ISO 9001: 2000 in Egypt. The process of implementing ISO 9001: 2000 in organizations requires the availability of resources provided by top management, and stresses the importance of their support. The second most important cited factor was the well-structured system of procedures, followed by the contribution of the internal auditor(s) in the firm and assistance from the parent company or partner. The internal auditors are usually the keys to implementation since they continuously assess the quality system capabilities and address non-conformities. However, there are other factors which are of less importance in the implementation of ISO 9000. For example, the experience with the existing quality system did not contribute significantly in the implementation process. This implies that such systems needed major modifications to comply with ISO 9001: 2000 requirements. Another surprising factor was the assistance of external consultants was not helpful. This may be because firms that did not use external consultants marked "not applicable" for this factor. To investigate how helpful external consultants were to those firms that used them, a means comparison was performed. The results suggest that the use of external consultants ranked 5th among other factors with a mean of 4.01.

Clearly the most important helping factor in implementing ISO 9001: 2000 was the commitment of top managers. This supports the claims of many scholars who consider this commitment of crucial importance (Chin et al., 2000; Poksinkska et al., 2002; McCullough and Laurie, 1995; Johnson, 1997; Genevay, 1997). Poksinska et al. (2002), Quazi and Padibjo (1998), and Lee (1998) looked at ISO 9000 implementation factors in different countries. These studies were supportive of the present study and they suggested that the most important factors helping organizations in the implementation process were top management commitment, a well-structured system of procedures, internal auditor(s), assistance from the parent company and employee motivation and commitment. The order of these factors varies with the studies. In Belgium, Vloeberghs and Bellens (1996) found that the most positive factor in implementing ISO 9000 was the strong commitment of senior management and the presence of a well-structured system of procedures, which was the same as in the case of Egypt. However, the third most useful feature in Belgium was experience with the existing quality system, but this ranked 8th in Egypt. This may be because Belgian industries may have had better quality systems prior to ISO 9000 than did in Egypt.

Barriers with ISO 9000 implementation

The research considered nine statements that were regarded as disadvantageous or problems with ISO 9001: 2000 implementation. Participants were asked to rate these statements on a five-point scale ranging from 5 = strongly agree to 1 = strongly disagree. The results are shown in Table 5. By examining Table 5, it is clear that the most significant problem is the need for the firms to change their old systems to fit the requirements of ISO 9001: 2000, with a mean score of 3.41. The second most significant problem was the resistance of employees to the introduction of ISO 9001: 2000. The third highest ranking problem with ISO 9001: 2000 implementation in the manufacturing sector was misunderstanding the standard by some or all of the departments. The problems with ISO 9001: 2000 implementation in Egypt were consistent with previous studies, including Poksinska et al. (2002), Lipovate et al. (1999), Yahya and Goh (2001), Fuentes et al. (2000), and Calisir et al. (2001). However, the ranking of the problems differed among studies. Furthermore, Table 6 shows a comparison between Egypt and Turkey. Table 6 suggests that the most significant problems associated with ISO 9001: 2000 implementation in those two countries, were resistance to the introduction of ISO 9001: 2000, bureaucratic documentation, and time and cost. Clearly both countries seem to have similar problems/barriers in ISO 9000 implementation. This may be because both countries are classified as Middle Eastern Countries and have similar economic indicators. Another issue the author believes that both countries have in common is that ISO 9000 contributes to their economic development as Turkey is witnessing a large number of organizations achieving certification. This is an indication of the Turkish organizations' beliefs in the benefits of the standards and overall contribution to the country's economic development. The same applies to Egypt as it highlighted through the current study and the author's previous study of the hotel sector (Magd, 2005).

Table 5: Problems associated with ISO 9001: 2000 implementation

Rank	Problems	Mean*	Sta.Dev.
1	There was a need to change the regular system to fit ISO 9000	3.41	1.01
2	There was a resistance to the introduction of ISO 9000	3.04	1.12
3	Lack of understanding of the importance of ISO 9000 by all departments	2.80	1.04
4	ISO 9000 is time consuming	2.64	1.16
5	ISO 9000 implementation involves high costs	2.58	1.08
6	ISO 9000 involves long and bureaucratic documentation	2.49	0.88
7	The firms lack well-trained and experienced internal auditors	2.35	1.12
8	ISO 9000 standards are vague and complicated	2.19	0.98
9	The surveillance visits are difficult to cope with	2.09	0.77

**The mean score is based on participants' level of agreement with each statement on a scale of 5 = strongly agree, 4 = agree, 3 = neither agree nor disagree, 2 = disagree, and 1 = strongly disagree.*

Table 6: Comparative analysis between the problems of ISO 9001:2000 in Egypt and Turkey

Rank	Egypt (the present study)	Turkey (Erel and Ghosh, 1997)
1	The need to change the regular system to fit ISO	Time and resources consuming
2	A resistance to the introduction of ISO	Difficulties in interpreting the standards
3	Lack of understanding of the importance of ISO by all departments	Cumbersome and bureaucratic documentation
4	ISO implementation is time consuming	Initial difficulties in making the quality system understood
5	ISO implementation involves high costs	Difficulties in choosing the suitable level of documentation

SUMMARY, CONCLUSION AND RECOMMENDATIONS

ISO 9000 is used more and more throughout Europe, the USA and world-wide. It has become a subject of focus, even in many developing countries, including Egypt. Although the experience of ISO 9001: 2000 implementation has been tested and evaluated, though only to limited extent in many countries, there appears to have been no research prior to this study focused upon Egypt. Therefore, this study was conducted to investigate ISO 9001: 2000 implementation in certified Egyptian manufacturing organizations. A response rate of 65% was obtained from 120 ISO certified manufacturing organizations. With regard to sector of activity among the surveyed sample, the researcher noted that engineering and electronics companies ranked first. In addition, ISO 9001: 2000 in Egypt was not for just large organizations, but was implemented in all sizes of organizations. The present study showed that the majority of certified manufacturing firms were medium and large organizations. When investigating the factors which contributed to the successful implementation of ISO 9001: 2000, the respondents suggested that the most significant factors were top management commitment, followed by a well-structured system of procedures, and the firm's internal auditors. The most significant problems facing Egyptian manufacturers were the need to change the current system, resistance to the introduction of ISO 9001: 2000, and the lack of understanding of the importance of ISO 9001: 2000 by all departments.

It may be concluded that ISO 9001: 2000 is viewed as an opportunity to develop an effective quality assurance system that can contribute to the achievement of excellence in organizational performance. Moreover, certified manufacturing organizations used ISO 9001: 2000 certification to meet or exceed the quality levels of competition, as they are faced with powerful international competitors from the industrialized world in its domestic market as well as in foreign markets.

In order to achieve the true value associated with the implementation of the standards ISO 9000 must be consistent with the organizations' strategic directions. Identified barriers must be reduced or eliminated for an effective implementation. In addition, in enhancing the level of the true value of the standard and effective implementation, the author strongly recommends that organizations focus on receiving training by ISO professionals. Moreover, for achieving economic development and growth, the researcher recommends that the ISO Central Secretariat consider various issues within the action plan for developing countries and these issues include the dissemination of the results of the current study across developing countries. The dissemination of the results of the present study may enable other developing countries to understand the critical success factors and barriers which can be used as a focal point in ensuring effective implementation.

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MILLIKEN MEDAL OF QUALITY RECIPIENTS

1997
Roger Milliken
Chairman and CEO
Milliken and Company

1998
William A. Finn
President and CEO
Asten, Incorporated

1999
Dan Hargett
Vice President
Microeletronics for Lockwood Greene

2000
Greg Frampton
Executive Administrator
South Carolina Department of Revenue

2000
Dr. Mary Thornley
President
Trident Technical College

2001
Thomas J. Malone, Ph.D.
President and CEO
Milliken and Company

2002
Robert L. Colones
Executive Vice President
McLeod Regional Medical Center

2003
Frank W. Fusco
South Carolina Budget and Control Board

2004
John G. Surak, Ph.D.
Professor
Clemson University

2005
Lawrence Brede, Jr., D.P.A
Senior Vice President and
Executive General Manager
Department of Energy
Wakenhut Services Incorporated

2006
Larry C. Bryant
Commissioner
South Carolina
Vocational Rehabilitation Department

2007
Donna Isgett
McLeod Health Organization

Henry N. Tisdale, Ph.D.
President
Clafflin University

SOUTH CAROLINA GOVERNOR'S QUALITY AWARD WINNERS

1995
- MEMC Electronic Materials, Inc.

1997
- Chem-Nuclear Systems, LLC

1998
- Saint Eugene Medical Center

1999
- AlliedSignal Greer Repair and Overhaul

2000
- McLeod Regional Medical Center of the Pee Dee, Inc.

2001
- WIX Filtration Products Division, Dillion Plant

2002
- Bridgestone/Firestone South Carolina, Aiken Plant

2003
- Robert Bosch Corporation
- Standard Corporation

2004
- Wakenhut Services, Inc.-Savannah River Site

**Awards not made in 1996, 2005, 2006 and 2007.*

ACHIEVERS

1995
- Preferred Billing and Management Services

1996
- Chem-Nuclear Systems, Inc.
- Dana Spicer Systems Assembly Division
- The Ohio Casualty Insurance Group
- Preferred Billing and Management Services
- South Carolina Department of Revenue
- Spartanburg Regional Healthcare System

1997
- Beattie Plant (Subsidiary of Delta Woodside Industries, Inc.)
- Saint Eugene Community Hospital
- Southern Division-Naval Facilities Engineering Command
- South Carolina Department of Education

1998
Gold Achiever
- Dana Corporation, Spicer Heavy Systems Assembly Division
- Wackenhut Services, Inc.

Silver Achiever
- Pirelli Cables and Systems North America

Bronze Achiever
- Operations Associates
- Springs Industries Warehousing and Distribution Division
- Stevecoknit Fabrics Company, Rainsford Plant

1999
Gold Achiever
- McDevitt Street Bovis
- Wackenhut Services, Inc., Savannah River Site

Silver Achiever
- Operations Associates

Bronze Achiever
- MUSC Medical Center

2000
Gold Achiever
- Dana Corporation, Spicer Driveshaft Division of Lugoff

Silver Achievers
- Dana Corporation, Spicer Driveshaft Division of Columbia
- Standard Corporation Integrated Logistics of Columbia and Greenville

Bronze Achiever
- Dana Corporation, WIX Filtration Products of Dillon

2001
Explorer Process
- South Carolina Mentor

Silver Achiever
- South Carolina Vocational Rehabilitation Department

2002
Bronze Achiever
- McLeod Home Health

2003
Gold Achiever
- Eaton Cutler-Hammer

Bronze Achiever
- South Carolina Mentor

2004
Gold Achiever
- South Carolina Vocational Rehabilitation Department

Bronze Achiever
- GlayoSmithKline

Explorer Process
- The Roche Carolina Inc. of Florence, SC

2005
Silver Achiever
- South Carolina Department of Mental Health

2007
Gold Achiever
- Bon Secours St. Franicis Health System

Bronze Achiever
- The Division of the State Chief Information Officer of the State Budget and Control Board

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Accredited by AACSB International
The Association to Advance Collegiate Schools of Business Internationally

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