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GUIDELINES FOR SUBMISSION

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Acknowledge and disseminate achievement in regional business behavior.

Provide an additional outlet for scholars and experts to contribute their ongoing work in the area of management decision making and practice.

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Include a title page with manuscript which includes the full names, affiliations, address, phone, fax, and e-mail addresses of all authors and identifies one person as the Primary Contact. Put the submission date on the bottom of the title page. On a separate sheet, include the title and an abstract of 150 words or less. Do not include authors' names on this sheet. A final page, "About the authors," should include a brief biographical sketch of 100 words or less on each author. Include current place of employment and degrees held.

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Out-of-Control Executives -What Trumps Smart?

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With many apparent strengths, some of the most successful organizational leaders ultimately fail and often cause significant damage to their organizations, their families, and themselves. This paper questions what motivates executives to make bad decisions and take unethical and/or illegal actions. From studying various executive scandals, questions were developed that relate to greed, power, Narcissistic personalities, values and ethics, status differentiation and social isolation, and sex. In addition, demographics of the executives and types of scandals were analyzed. Since executive scandals impact society as well as individuals and organizations, this paper offers suggestions of ways that these executives could help others avoid unethical and illegal actions. Future considerations include the issue of time theft since executives involved in scandals spend time in unethical and illegal scenarios instead of spending time productively in ethical, legal scenarios for themselves, their families, their organizations, and society.

INTRODUCTION

Academicians, organizational leaders, students and others study successful business people, especially CEO's and other executives who are often considered to be intellectual giants and/or corporate heroes. These people are often known for their business acumen, their strategic shrewdness, and their transformational leadership. They are frequently pillars in their community, and their espoused values for their organizations mirror their reputations. Yet many of these corporate heroes eventually fail, despite their apparent strengths. Hogan and Hogan (2001) believe that "failure is more related to having undesirable qualities than lacking desirable ones" (p. 41). So the question becomes, "What trumps smart and thereby unravels executive success?" Is it greed, wrong values, power and hyper-competitiveness, narcissistic tendencies, sex or some complex combination of those and other problems? Do CEO's experience increasingly higher levels of social isolation and status differentiation that negatively impact reality for them? Research provides potential answers, but the answers may actually be symptoms of even bigger, more complex problems related to their organizations and their followers as well as the executives' own personal issues. The consequences for these failed corporate heroes are often dire, including job loss, jail and prison, loss of families, loss of reputation, and death, sometimes suicide. For their companies, consequences are also negative, sometimes equally dire. Sometimes, the companies don't survive.

DOES GREED TRUMP SMART?

According to Bloomberg Business Week (2002), "Greed, hypercompetitiveness, isolation, and more have pushed too many top execs to cross the line without fear of consequences." The title of the article, "If only CEO Meant Chief Ethics Officer," seems to commiserate with those of us who expect ethical behavior from CEO's. The Bloomberg Business Week (2002) article goes on to say "experts in the CEO lifestyle suggest that the most obvious (cause) is greed. How else to explain why Kozlowski, Tyco's ex-CEO, allegedly tried to evade $1 million in sales taxes on $13 million or so in art he purchased after raking in more than $300 million in compensation over the past three years? It's the same motive that landed Drexel Burnham's Michael Milken and his accomplice Ivan Boesky in jail in the early 1990s, thanks to junk-bond schemes that investigators say bilked investors out of more than $1 billion" (p.1).

In the Forbes article, Sex, Lies & Insider Trading at IBM, (Bandler 2010) discusses the roles played by executives of various firms as well as Danielle Chiesi, their confidante. While significant amounts of money were allegedly made by executives of Galleon, New Castle, and other companies as a result of insider trading, Bandler (2010), indicated that "Moffat (heir apparent to IBM CEO Palmisano) didn't make a penny from the information he provided, nor did he trade a share of stock. And of all the buttoned-down executives at Big Blue, Moffat was the last one that old friends could imagine being caught up in a scandal, let alone a crime" (p. 69). Yet, Moffat is now a convicted felon. Fortune (Bandler, 2010) quoted Moffat as saying: "Everyone wants to make this about sex. Danielle (Chiesi) had an extensive network of business people. And she added clarity about what was going on in the business world . . . I know in my heart what this relationship was about: clarity in the business environment" (p. 80). In addition to Robert Moffat, IBM Senior Vice President, Bandler (2010) discusses several other executives (John Joyce, IBM CFO; Mark Kurland, New Castle hedge fund co-founder; Rajrajaratnam, Galleon founder; and Hector Ruiz, AMD CEO) some of whom were at various times Chiesi's boss, lover, and/or friend. For them all, Chiesi was apparently a very close confidante who helped expedite the exchange of information, and the government has charged insider trading. So what was the primary cause other than greed? Does Moffat's comment "clarity in the business environment" (Bandler, 2010, p. 80) translate power? Does this need for power relate to executive hyper-competitiveness to the extent that these "Siamese twin" drivers trump smart, or is power a separate issue that drives executive decisions and actions and overwhelms their executive intelligence?

DOES POWER TRUMP SMART?

McMurry (2000) cautions that "his (the top executive's) only hope for survival . . . is to gain and retain power by tactics that are in a large measure political and means that are, in part at least, Machiavellian. Such strategies are not always noble and high minded. But neither are they naïve. From the selfish standpoint of the beleaguered and harassed executive, they have one primary merit: they enhance his chances of survival" (p. 145). McMurry (2000) offers specific advice regarding executive personal style as follows: (1) Be cautious in taking advice; (2) Avoid close superior-subordinate relationships; (3) Maintain maneuverability; (4) Use passive resistance as needed, i.e., stall; (5) Be ruthless when expedient; (6) Don't communicate everything, especially bad news; (7) Don't depend on someone unless it is to that person's advantage to be loyal; (8) Compromise on small matters; (9) Be an actor who influences audiences emotionally as well as rationally; (10) Radiate self-confidence (i.e., Be in command); (11) Make sure outward evidence exists in terms of status, power, and material success; (12) Avoid bureaucratic rigidity to hold people's allegiance (i.e., bend the rules and make exceptions); and (13) Be receptive to different opinions (McMurray, 2000). He goes on to say that "nothing is more devastating to an executive than to lose support and backing in moments of crisis. It is for this reason that the development of continuing power is the most immediate and nagging concern of many professional managers" (McMurray, 2000, pp. 140-141). Even McMurray's (2000) personal style advice could influence executives to act in negative ways to gain and retain power.

Perhaps power, and the hunger for more power, has the capability to override intelligence and cause some people to make decisions and take actions that would be counterintuitive for most intelligent people. Perhaps there are power mongers who are so consumed by the need to control the destinies of people and organizations that they act on the basis of power needs instead of intellectual reasoning (Pryor, Taneja, Oyler, & Singleton, 2011).

Litzky, Eddleston and Kidder (2006) indicate that "personal aggression involves hostile or aggressive behavior. This form of deviance can harm an organization's reputation and have serious negative consequences for the targeted individuals. Personal aggression includes various types of intimidation tactics such as sexual harassment, verbal abuse, and threats of physical harm" (p. 93). Padilla, Hogan, and Kaiser (2007) emphasize that "destructive leaders are characterized by charisma, personalized needs for power, narcissism, negative life history, and an ideology of hate" (p. 182).

DOES NARCISSISTIC PERSONALITY TRUMP SMART?

Rosenthal & Pittinsky (2006) noted that ". . . power is one of the great motivators for narcissistic leaders" (626). Humphreys, Zhao, Ingram, Gladstone and Basham (2010) stated, "We agree that reactive narcissists crave power, consistently attempt to secure more of it, and oftentimes, at great peril to themselves and their followers" (p. 127). Citing Lipman-Blumen (2005) and Whicker (1996), Sims (2009) notes that "research has suggested that some unethical corporate behavior may be tied to toxic leaders" (p.560). Sims (2009) goes on to say that "Classifications like narcissism, Machiavellianism, and psychopathy have been used to describe toxic leaders who may not have the firm's best interest at heart (see Allio, 2007; Gable and Dangello, 1994; Paulhus and Williams, 2002; Pech and Slade, 2007)" (p. 560). With personalized charisma, leaders are likely to also experience reactive narcissism with follower exploitation and dependency (Humphreys, et al, 2010). So the question becomes, "Are narcissistic and/or charismatic leaders more likely to engage in over-the-top, destructive behaviors that override intelligence as they make decisions and take actions?"

According to the American Psychiatric Association (2000), "Narcissism is "a pervasive pattern of grandiosity (in fantasy or behavior), need for admiration, and lack of empathy . . . present in various contexts" (http://www.psychiatryonline.com). Narcissism is closely related to charisma and the personalized use of power, and it involves dominance, grandiosity, arrogance, entitlement, and the selfish pursuit of pleasure. Padilla, Hogan, and Kaiser (2007) mention authors who correlate narcissism with destructive leadership (Conger, 1990; House & Howell, 1992; Maccoby, 2000; O'Connor, Mumford, Clifton, Gessner, & Connelly,1995; Rosenthal & Pittinskya, 2006; Sankowsky, 1995). We would add Bella, Bennett, & Aquino (2011) whose article "proposes a model that seeks to explain why high status organizational members engage in unethical behavior" (p. 407). They note that "some people have a compromised level of morality and will be more likely to engage in unethical behavior" (410). Bella, et al (2011, p. 410) indicated that "some employees possess the dark triad of personality (Machiavellianism, narcissism, and psychopathy (Jakobwitz & Egan, 2006) and exhibit personality disorders (e.g., narcissistic and antisocial personality disorders) that make them more prone to exhibit antisocial behaviors (Allio, 2007; Goldman, 2006)." We would add Sims (2009) who studied "Deviance as a Retaliatory Response to Organizational Power" (p. 553).

DO WRONG VALUES (ESPOUSED VS. REAL VALUES) AND THE LACK OF ETHICS TRUMP SMART?

Organizational websites list values and operating guidelines which should represent the executives' commitments to what they care about passionately and how they will act based upon their shared values. Yet many times, the decisions and actions of the executives do not remotely resemble their espoused values and operating guidelines. So the question becomes: "Do espoused versus real values trump smart?"

Pryor, White and Toombs (1998, 2007) indicated that "the theory of cognitive dissonance (Festinger, 1957) leads us to believe that if people act (i.e., behave, make decisions) contrary to their attitudes and values, such behavior can eventually change their beliefs and values" (p. 5.16). Is it possible that CEOs at one time actually passionately believed in the values they espoused and the commensurate operating guidelines, but as they acted counter to those beliefs, their values and operating guidelines changed to align with their actions?

DO STATUS DIFFERENTIATION AND SOCIAL ISOLATION IMPACT SMART?

Bella, Bennett, and Aquino (2011) argue that "status differentiation in organizations creates social isolation which initiates activation of high status group identity and a deactivation of moral identity" (p. 407). They go on to say that "As a result of this identity activation . . . high status individuals will be more vulnerable to engaging in unethical activities" (Bella, et al, 2011, p. 407). Differentials in such items as status, money, levels of team membership and power apparently lead to CEO social isolations and create a CEO existence vacuum with limited opportunities for impact of self by normal influences or forces. As a result, CEO decisions and actions sometimes reflect the same type of insular maladies and macabre or deviant results similar to those from genetic inbreeding. Is it reasonable then to think that status differentiation and social isolation, along with possible deviant results can trigger unethical and illegal behavior from otherwise intelligent people, especially CEOs who are perhaps most at risk?

DOES SEX TRUMP SMART?

Scandals of sexual trysts with call girls, staff members, and others have made headlines as executives of governmental units and private organizations spend their time in rendezvous that have no potential of positively impacting their personal or professional lives or their respective organizations. Berr (2010) chided CEO's about their sexual trysts. He noted that "when it comes to the temptation of having an adulterous affair, even some of the toughest-minded bosses just can't hold up a stop sign" (p.1). Berr (2010) goes on to say that "A married CEO engaged in a sexual affair, or even one that merely appears to be sexual, jeopardizes not just his or her marriage and job (especially if the lover was a subordinate or a supplier), but can also put the whole company at risk. Still, many corporate chiefs are willing to take the chance" (p. 1). To make his point, Berr (2010) lists nine executives who crossed what he calls the invisible line in terms of sexual misconduct. Table I was developed from the information provided by Berr (2010).

These sexual encounters are not always physical. Social networking has opened up new options for fantasy sexual encounters through Facebook, Twitter, and other social networking sites. So, supposedly intelligent people, including business executives, apparently spend large amounts of time in fantasy relationships. Is this about sex, poor judgment, or some other more sinister causes? Should these executives call their psychiatrists, read self help books, or just "get a life"? Perhaps they should focus on their jobs as executives of organizations and the numerous employees whose lives they can impact positively or negatively.

AN ANALYSIS OF EXECUTIVE DEMOGRAPHICS

An analysis of the demographics of the executives in our study who were involved in scandals revealed the following:

- They were highly educated. All had undergraduate degrees. Some had master's degrees and doctorates. Some had been given honorary doctorates by various colleges and universities.
- Degrees were varied – Accounting, Applied Science, Business Administration, Economics, Electrical Engineering, History, Law, Management Engineering, Physical Education, Physics, Political Science, and Veterinary Medicine.

- They were seasoned executives. They had many years of increasingly higher levels of executive experience.
- They got their "upward mobility beginnings" through mentors and/or family members.
- Some of their mentors also had ethics and legality issues.
- Most were older – from 60 to 85 years of age.
- Most were married at the time, sometimes second marriage.
- Most were male.
- Most were involved in scandals where there were allegations of illegalities as well as sexual misconduct.

An analysis of the types of scandals revealed the following statistics (Total is more than 100% because some scenarios included a sexual scandal along with another type of scandal.):

- 30% were convicted of insider trading.
- 52% were sexual scandals involving affairs, mistresses, and/or sexual harassment.
- 10% were convicted of fraud.
- 10% were convicted of perjury.
- 4% were convicted of tax evasion.
- 4% were convicted of theft.
- 2% were charged with child molestation.
- 2% were convicted of operating a Ponzi scheme.

The question becomes: "What can organizational leaders and academicians learn from these and other demographics that can help prevent future unethical and/or illegal CEO decisions and behavior?"

CONCLUSIONS

The issue of over-the-top, out-of-control executives is seriously impacting society as well as individuals and organizations. Studying unethical and illegal behavior of CEOs is a bit like only looking in the rear view mirror while driving. You will know where you have been which could be very helpful. However, understanding the present, and perhaps creating a better future, is the challenge and desired result and requires looking ahead as well. At minimum, academicians, organizational leaders, psychiatrists, and others should come together in their attempts to understand, predict, and perhaps prevent some of the executive behavior that has been, and continues to be, devastating for the executives, their families, their organizations and others caught in the midst of their behavioral travesties.

With today's technological capabilities, social networking websites, online forums, and other virtual realities, CEOs who have been involved in unethical and/or illegal scenarios could be of assistance. However, to ensure positive impact, they would first need to address for themselves the questions proposed in this article. Then they could help others avoid unethical and illegal actions. In the meantime, academicians, organizational leaders, university students and others will continue to study successful business people, especially CEO's and aspiring CEO's, the intellectual giants and corporate heroes, some of whom will fail because of unethical and/or illegal behavior.

FUTURE CONSIDERATIONS

When executives are involved in unethical and illegal decisions and actions, the results will typically be negative for them and their organizations. As mentioned previously, sometimes the consequences are dire. However, one thing that has not been appropriately addressed (and which we are addressing in a future article) is that the executives are engaged in time theft in addition to the other unethical and illegal decisions and actions. In other words, the time spent in the unethical and illegal scenarios could have been spent productively in ethical, legal scenarios for themselves and their organizations. Executives should reflect on the concept of time theft as well as the potential negative consequences each time they are tempted to make the wrong choices. The time theft as well as the potential negative consequences exist for the executives, their families, and their organizations.

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TABLE I
EXECUTIVES AND SEXUAL SCANDALS

CEO	Organization	Sexual Encounters	Scenario
Jack Welch, CEO General Electric	General Electric	Suzy Wetlaufer, Editor Harvard Business Review	Collaboration on an article for HBR. Divorced Wife, Jane. Married Suzy.
Dov Charney, CEO American Apparel	American Apparel	Numerous affairs with his subordinates. Sexual harassment lawsuit was listed in HR World as one of the top 20 sexual harassment claims of all time. Bill Clinton-Monica Lewinsky case was No. 1.	Alleged routine in the work environment at American Apparel where Charney was known for his "bad boy" image.
Mark Hurd, CEO Hewlett-Packard	Fired by HP. Hired by Oracle CEO Larry Elison as Co-President.	Allegations of sexual harassment by Jodie Fisher, Marketing Consultant for HP.	Hurd gets $50 million HP severance. Cost to HP shareholders $10 billion (sex scandal).
Harry Stonecipher CEO, Boeing, 2003-2005.	Forced to resign from Boeing.	Affair with female Boeing executive, Debra Peabody	Wife of 50 years, Joan Stonecipher, filed for divorce.
John Dodds, CEO Kier Group.	Survived affair. Kier Group, UK Retired at age 64.	2007 Affair with Deena Mattar, Kier Group Finance Director.	Wife, Valerie, Divorce. Married Deena Mattar.
Mark McInnes, CEO 7 years, David Jones, Ltd., Australia	2010 - After 13 years, McInnes resigned from David Jones Ltd.	Employee sexual harassment complaint, Kristy Fraser-Kirk. $37 million lawsuit. Fraser-Kirk settled for $850,000.	McInnes received $1.95 of $6.1 million potential payout.
Charles E. Phillips, Co-President, Oracle	Phillips remained at Oracle.	8 ½ year relationship with YaVaughnie Wilkins since 2001. Wilkins showed pictures of Phillips & her on billboards & online after "breakup".	Decided to "patch things up" with wife, Karen, which angered Wilkins.
Lord John Browne, CEO, BP	2007 Scandal made public by Chevalier ended Browne's 40-year BP career.	Homosexual lover, Jeff Chevalier, not a BP employee. Browne wrote a book, *Beyond Business.*	Browne became a senior partner with U.S. private equity firm Riverstone.
Steven J. Heyer, CEO, Starwood Hotels and Resorts Worldwide	Starwood Hotels ousted Heyer & did not pay $35 million severance.	2007 Allegations: Inappropriate & suggestive e-mails & text messages to female employee. Inappropriate physical encounter with a woman outside a restaurant restroom.	Became chairman and CEO of Harry & David Holdings, lead director of Lazard Ltd., and board member of Omnicare.

Source: Chart developed from Berr, J. (2010). CEO sex scandals: A rogues' gallery, *Daily Finance*. Retrieved from http://www.dailyfinance.com/2010/11/24/ceo-sex-scandals/.

A Model for Managing Uncertainty on the Cloud

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Cloud computing refers to providing computation services over the Internet. These Web-Based services are available to the public over network connections and managed by a third party which guaranties the availability of these services at an appropriate price. In this paper we will discuss the various sources of uncertainty that result from placing data and applications on the cloud. Furthermore, we will discuss counter measures to reduce or eliminate these uncertainties by instituting policies and procedures to decide what application and data to place on the cloud. In addition, we will provide a model for assessing uncertainty on the cloud.

INTRODUCTION

Cloud computing refers to providing computation services over the Internet. These Web-Based services are available to the public over network connections and managed by a third party which guaranties the availability of these services at an appropriate price. This presents an attractive option for some companies to delivering computing services to their businesses without maintain an IT operation (Yves, et al, 2010).

In this paper we will discuss the various sources of uncertainty that result from placing data and applications on the cloud. Furthermore, we will discuss counter measures to reduce or eliminate these uncertainties by instituting policies and procedures to decide what application and data to place on the cloud.

Cloud Computing is one of the biggest technologies in the IT world today. It evolves from the idea that work done on the clients can be moved to the "cloud" (Veiga, 2009). George Pallis (2010) describes Cloud computing as a coming together of different computing services such as Internet delivery, "pay-as-you-go" utility computing, elasticity, virtualization, grid computing, distributed computing, storage, content outsourcing, security, and Web 2.0. In his article on cloud computing, Pallis(2010) uses the US National Institute of Standards and Technology's definition for cloud computing:

"Cloud computing is a model for enabling convenient, on-demand network access to a shared pool of configurable computing resources (for example, networks, servers, storage, applications, and services) that can be rapidly provisioned and released with minimal management effort or service provider interaction. This cloud model promotes availability and is composed of five essential characteristics [on-demand self-service, broad network access, resource pooling, rapid elasticity, and measured service], three service models [cloud software as a service, cloud platform as a service, and cloud infrastructure as a service], and four deployment models [private cloud, community cloud, public cloud, and hybrid cloud]. "(Pallis, 2010)

Daniele Catteddu and Giles Hogben (2009) in their paper on cloud computing suggested that the following characteristics of cloud computing services:

- Highly abstract resources
- Near instant scalability and flexibility
- Near instantaneous provisioning
- Shared resources
- ‘Pay as you go’ system
- Programmatic Management (Cattedu & Hogben, 2009, p 14)

They also stated that the forecast for cloud services in 2009 will be $17.4 billion and in 2013, it will be $44.2 billion. (Catteddu & Hogben, 2009, p 4)

Uncertainty with Computing on the Cloud

Cloud computing, however, does not come without uncertainty. When the firm’s data is placed on the cloud, the firm has very limited control over such data. This makes the data exposed to hackers and other breaches. In a survey poll of InformationWeek Analytics, security concerns topped the list of reasons to not use cloud computing services (Shipley, 2010). Shipley (2010) illustrates that even the biggest of cloud providers, like Google, are subject to security breaches and therefore firms have every right to be concerned about their data on the cloud. Furthermore, applications that are hosted by the provider may not be available all the time, and/or they may not present the latest versions of these applications. As such, the client may encounter uncertainties with respect to these applications or the results that are delivered by these applications.

Sources of Uncertainty

There exist a number of sources of uncertainty chiefly among them are:

- Missing information
- Trusting the available information
- Inconsistency of available information
- Irrelevant information
- Interpretable information

Potential Uncertainty Treatments

After sources of uncertainty have been identified and assessed, all techniques to manage the uncertainty fall into one or more of the following categories:

- Avoidance: This implies not performing the activity associated with the uncertainty.
- Reduction**:** This involves employing methods that reduces the uncertainty. In the case of deploying applications on the cloud, uncertainty reduction may be achieved by deploying these applications incrementally. Outsourcing could be considered a form of uncertainty reduction if the developer can demonstrate a higher technical capability than the originator of the application.
- Transfer**:** This involves buying insurance where the damages from uncertainty could be compensated for by the insurance provider.
- Retention: This involves accepting the uncertainty and budgeting for it.

When selecting a cloud service provider, the “transparency” of the provider should be also taken into account (Shipley, 2010). Shipley (2010) found that some providers like Google were ready and open to questions, while others did not cooperate. Transparency and visibility of the key control features is important to assess areas like cloud provider's quality-assurance processes, service-level agreements, financial health, and dependence on other suppliers.

Shipley (2010) also suggests auditing to look into the security features of the cloud provider. SAS 70 type II audit is a letter of attestation and a report on the control objectives of the provider; but not many firms are willing to let customers see their report on the control objectives. Shipley (2010) states in his article that an audit named CloudAudit A6, is being prepared to evaluate and assess the cloud providers thus making it easier for customers to access and choose an appropriate cloud provider.

Cloud Computing could benefit from a service level agreement (SLA) between the client and the cloud provider. Furthermore, the client should encrypt its data and use appropriate high security controls for sensitive data on the cloud (ICASA, 2009). According to the organization, the SLA will help cloud clients specify if joint control frameworks will be used, clarify expectation of both parties and state policies for disaster recovery. A strong SLA will be beneficial to both parties (ICASA, 2009).

John Wheeler (2010) recommends the following company's internal key areas to examine before adopting or considering cloud technologies:

- Organizational and Human Resource Security
- Access Control
- Asset Management
- Physical and Environmental Security
- Operations and Change Management
- Disaster Recovery and Business Continuity
- Privacy

Below is a list of some of the uncertainties that a cloud client might encounter depending on the services of the cloud provider and its willingness to grant access to its facilities to the cloud client.

- Governance: A cloud client may become uncertain about the governance of the software resources due to gaps in security with the cloud provider.
- Lock in: A cloud client can become very dependable on the service provider and prevents the client from changing providers. This adds uncertainty to the quality of information that the client receive from the cloud.
- Isolation failure: A cloud client could become uncertain about the separation of storage, memory, and routing between different tenants. The cloud client might not know, or be able to find out if such separation fails.
- Compliance risks: A client uncertainty might manifest itself if the cloud provider does not allow customer to audit it, or if the cloud provide cannot provide compliance with the needed requirements.
- Data protection: A cloud client might encounter another uncertainty about the information it is receiving from the cloud provider if the cloud customer cannot effectively check the data handling practices of the cloud provider or if the cloud provider is not willing to provide that information.
- Insecure or incomplete data deletion: When a client makes request to the provider to delete data, the provider may not truly delete the data because the disk to be deleted might also contain data from other cloud clients. This represents uncertainty about the data to the cloud client (Catteddu & Hogben, 2009, p 9-10).

A cloud client is responsible for dealing with all the uncertainties that are generated from using a cloud provider to handle its data and applications. It is beneficial for a cloud client to take certain precautions before adopting the cloud technology. Taking these precautions will reduce or mitigate the uncertainties that such a client will certainly encounter after adopting the cloud technology. The following are some precautions that could be exercised by a cloud adopter.

- A cloud client should determine if the data is suitable to be put on the cloud. Performing cost benefit analysis will definitely help in the process of classifying which data should be considered as a candidate for the cloud.
- A cloud client should find a cloud provider that does security assessments to determine whether the application or the data is ready for the cloud.

- A cloud client may start with non-sensitive and less valuable data on the cloud. This is an important first step until appropriate measures are considered and implemented to reduce the uncertainty that the cloud introduce into applications and their data.
- A cloud client may evaluate service provider agreements to determine how the cloud provider secures data. This evaluation is detrimental in choosing a cloud provider since it reduces the uncertainty of the client.
- A cloud client should also insist on transparency of the cloud provider so that they understand what's happening underneath the virtual cloud infrastructure. This also goes a great way in reducing the uncertainty of the client with respect to its data on the cloud (HP, 2010).

Some or all of the above precautions may be instituted as policies and/or procedures for farming data and applications to the cloud. A careful draft and adherence to these policies and procedures will go a long way to reducing, or even, eliminating some of these uncertainties.

A Model for Assessing Uncertainty on the Cloud

Applications which are included in the IT portfolio of an organization are usually subjected to cost/benefit analysis, unless it happened to be the result of a directive to comply with rules and regulations. As such, a measure of uncertainty in cloud computing is a function of this cost/benefit analysis for each project.

We could look at such a function as a percent reduction in benefits from the cloud. That is, if the organization expects to save \$X as a result of using cloud services for a particular application, then probably the net saving is

\$(1-β) X where β is the fraction of X that is lost due to uncertainty of placing the application on the cloud

As $\beta \to 1$, the savings decrease until they equal to \$0.

For $\beta = 0$ (no risk) the net savings remains at \$X.

For a portfolio of applications that a business might be interested in placing on the cloud the total net savings (T) that might accrue is given by the following formula:

$$T = \sum_{1}^{n}(1 - \beta i)Xi$$

Where n is the number of applications to be placed on the cloud,

X*i* is the savings from application *i*, and β_i is the fraction of X that is lost due to placing application *i* on the cloud which may be used as a decision variable by management. That is, an application might be a candidate for the cloud if its $\beta_i \leq c$, where c is a constant determined by management to be the maximum acceptable level for reduction in the savings for any application.

Assessment of β_i's and X_i's

Assessing β_i depends on assessing X_i and the experience of the firm in estimating savings and cost of uncertainty. The value of β_i is dependent on loss as a result of placing an application on the cloud for reasons including compromise of data integrity, downtime of application, degradation of performance of data link connection, availability and dependability of customer service. It further depends on the cost of posting the application on the cloud. And that is a function of the charges (rate and time) the provider requires to post an application. For example, you may have to pay for a (24 by 7) application availability, while your application is not needed (or used) during the weekend. Or similarly, your application is not needed overnight.

Assessing the β_i may be facilitated by considering other people experiences with the considered provider; or different providers. None the less, the better (more accurate) the estimate, the better the decision of placing an application on the cloud will be. Furthermore, available data about past performance of the provider may play a role in enhancing the estimates of the β_i 's. Sensitivity analysis could be used to assess the robustness of the decision for a varying (or interval) values of the β_i's.

This approach provides a framework for dealing with the assessment of β_i's and X_i's and could help in reducing the uncertainty about posting applications on the cloud.

β_i's and X_i's may be assessed using quantitative methods such as Analytical Hierarchy Process or Decision Trees with monetary values associated with possible outcomes. Alternatively or when quantitative assessment is not plausible, we may use qualitative methods such as rankings rendered by a panel of experts. When it is desirable, both quantitative and qualitative methods may be used. In such a case, a function may be used to augment all measures and produce a point estimate for β_i's and X_i's. In the next section we will describe the variables that may be used to estimate β_i's and X_i's.

Determining the Variables that Make β_i's and X_i's

X_i Variables

These variables represent the saving (cost reduction) that might be the result of placing the applications on the cloud. The saving is a function of variables that include: savings from needing less IT staff; the cost of purchasing and updating necessary software (such as Microsoft Office); savings from purchasing, upgrading and maintaining servers, server software; and savings from purchasing database software.

β_i Variables

These variables contribute to the uncertainty of the application being on the cloud and are associated with: the reliability of the application being on the cloud (downtime and loss of business); the security issues associated with the application being on the cloud; cost of maintaining the application on the cloud when the application is not in use (for example paying fees for the provider over the weekend even though the application will never be used over the weekend); availability of the helpdesk 24 by7 by phone or only email and what is the turnaround time (in essence if a business dismantle its IT department in favor of the cloud, would they still get technical help when needed in a timely fashion?); the cost of customizing an application if necessary; and other variables that the organization deems necessary.

SUMMARY

Cloud computing refers to providing computation services over the Internet. These Web-Based services are available to the public over network connections and managed by a third party which guaranties the availability of these services at an appropriate price. In this paper we discussed cloud computing, the various sources of uncertainty that result from placing data and applications on the cloud, and counter measures to reduce or eliminate these uncertainties by instituting policies and procedures to decide what application and data to place on the cloud. A further analysis of these procedures and policies with respect to their effectiveness and efficiencies is in order. Furthermore, the paper discussed a possible model for managing the uncertainty on the cloud with respect to the saving that might accrue, and the reduction of such saving that might be the result of placing the application on the cloud. We argued that such analysis should be based on data collected from firms that have used, or using, the cloud for their software applications. Instruments for data collection should be designed, firms identified, and these instruments administered in the selected firms. The collected data is then utilized to assess the efficiencies and effectiveness of these policies and procedures, as well as, the measures for assessing the saving and risk of placing applications on the cloud.

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Examining Human Resource Managers' Involvement in Mergers and Acquisitions (M&As) Process in Ghana

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Despite decades of academic research, too few studies have examined human resource (HR) managers' involvement in mergers and acquisitions (M&As) process. The objectives of the paper were to distill a clearer picture of HR managers' involvement in M&As process and to propose a framework of the factors that influence HR managers' role in the M&As process. The paper adopted an interpretive approach anchored in qualitative methodological approach. Twenty-nine interviews were conducted with HR managers of firms created as a result of M&As in Ghana. The data were analyzed mainly according to guidelines for analytical induction (Marshall and Rossman, 1995). The findings of the paper revealed the HR managers' involvement in M&As process serves as communication tool for espousing the possible outcomes of M&As to employees. The paper also demonstrated that management support and skills of HR managers influence the role played by HR managers in the M&As process.

INTRODUCTION

Mergers and acquisitions (M&As) have been at the center of management research for several decades. Financial, strategic and human aspects of the M&As phenomenon have been used in an effort to better understand this complex process. Even though financial and strategic issues are dominant in the process, the importance of the "human" capital in the M&As cannot be ruled out. M&As include financial transactions as well as processes that significantly affect the working lives of employees (Cartwright and Cooper, 1996). The failure of M&As to consistently live up to expectation is often blamed on how HR for employing poorly designed employment relations tactics to handle human issues in M&As (Buono and Bowditch, 1989; Cartwright and Cooper, 1996; Marks and Mirvis, 2001).

Employees in organizations must be able to adapt to changes in times of rapid organizational change (Stewart, 1996). HR has always played multiple roles (e.g. employee advocate, management conscience – ensuring the sense of right and wrong), but the last decade has witnessed the advocacy of new roles – the most popular of which is to promote HR as a business partner. Bramson (2000) observed that the failures associated with M&As are attributed to the disengagement of HR managers from demonstrating knowledge and skill in the management of human capital during M&As. HR must be viewed as an intrinsic part of the integration team in any M&As because of its ability to evaluate the compatibility of corporate cultures and different options for combining enterprises. HR must therefore be the trusted source of information for employees on any information regarding M&As.

It has been observed that despite the recent boom in M&As driven by globalization, technological change and deregulation (Schweiger and Goulet, 2000), statistics have shown that the outcome of M&As is mostly disappointing (Overman, 1999; Schuler and Jackson, 2001, Schweiger, 2002). Research has suggested that the challenge of M&As has to do with the management of people (Antila and Kakkonen, 2006).

Although studies on M&As and the HR function are not scarce, it is still unclear to distill a clearer picture of HR managers involvement in M&AS process and for the factors that influence HR managers' role in M&As process, there is further paucity of research. The present research attempts to fill this gap. HR issues are of critical importance to M&As success, hence relegating the strategic role of HR managers from the M&As process is capable of derailing alliances that have the prospects of financial success. This value - based perspective requires a systematic effort from HR managers to make the HR function play a strategic partnership role at all stages of the M&A process.

The factors that influence HR managers' involvement are significant for HR managers and others involved in corporate planning decisions. The study would add to existing knowledge in the field of study and provide the platform for further research on the phenomenon of study. The main aim of the study is, therefore, to propose a framework of factors that influence HR managers' role in M&As process.

LITERATURE REVIEW

This section reviews extant empirical literature on M&As, HR managers' involvement in M&As, and factors affecting the role of HR managers in organizations.

Mergers and Acquisitions

Various motives such as market-access, expansion, diversification, distribution network, sustainable competitive advantage, response to revolutionary change in the industry and/or acquisition of knowledge of other businesses, have been found to drive M&As (Deiser, 1994; Kruger and Muller-Stewens, 1994; UNCTAD, 1999, 2000; von Krogh et al., 1994). Marks and Mirvis (2001) have observed that the merger of separate entities into a new firm or the acquisition of a firm by another has become a regular component of the managerial decision making process. Perhaps, a merger or acquisition may lead a firm to pursue a strategy that would otherwise be too costly, risky, or technologically advanced to achieve its objective.

On the other hand, other acquisitions or mergers can be defensive moves to protect market share in a declining or consolidating industry. The overarching reason for merging with or acquiring another organization may be that the union or acquisition may be able to help the firm attain its strategic goals more quickly and inexpensively than if the company acted on its own.

Marks and Mirvis (2001) argued that in this era of intense and turbulent change, involving rapid technological advances and ever increasing globalization, M&As enable organizations to gain flexibility, leverage competencies, share resources, and create opportunities that otherwise would be inconceivable. This helps organizations to achieve their strategic intent and fulfill stakeholder expectations.

The major problem with M&As appears to be the high failure rates. Soderberg and Vaara (2003) claimed that cross-border M&As frequently fail to deliver the synergistic or other benefits strived for, lead to human resource and cultural problems, result in power plays, and often produce problematic consequences for various internal and external stakeholders. This is particularly significant given the rapid rise in international M&As in recent years and their growing spread into sectors in which they used to be relatively rare, including the public services.

HR Managers' Involvement in M&As

Research evidence has demonstrated that most HR managers feel that they do not have enough knowledge of M&As process to be able to contribute to the discussion of M&As (Antila and Kakkonen, 2006). It seems to suggest that HR managers are distant from the due diligence processes of M&As as such their contributions to M&As process in terms of transfer of strategic capabilities, organizational learning and organizational change processes have not been fully utilized. This point is advanced by Tanure and Gonzalez-Duarte (2007), arguing that HR managers' contribution to the value-creation process has not been fully utilized. Value creation in M&As depends on the successful management of people-related issues.

The practical implications are that even though HR managers should seek to undertake a more active and strategic role in M&As by contributing effectively to the performance of the organization, their actions are shaped by the consistency between discourse and practice of chief executive officers regarding the importance of people within organizations (Tanure and Gonzalez-Duarte, 2007). Any disparity between this discourse and practice is likely to affect the role played by HR managers within organizations.

The effort to effectively communicate to various stakeholders should be among the top priorities of HR managers following an M&A (Clemente and Greenspan, 1998; Gall, 1991). The announcement of the M&As deal usually increases employee uncertainty and raises questions (Hubbard, 2001; Risberg, 1997). Challenges, which may negatively affect the subsequent integration process, can be made at the very early stages of the process. Such challenges include the briefing of employees on the M&A by outsiders (Clemente and Greenspan, 1997). Companies should not overlook that the first impression could be of vital significance (Appelbaum, Gandell, Yortis, Proper, and Jobin, 2000). Failure to quickly communicate with employees could result in the spreading of unfounded rumors, while anxiety increases and may lead to negative attitudes towards M&As. Research has shown that this might be a significant challenge, as each M&A is unique (Clemente and Greenspan, 1998). Success, to a large extent, depends on the effective communication from the first minute of the announcement of the deal (Cartwright and Cooper, 1996).

Ulrich (1998) argued that HR managers are not fully comfortable or compatible in the role of change agent and that their task is therefore not to carry out change but to facilitate change. HR managers have to be fully aware of the reasons why people resist change and the approaches that can be adopted to overcome resistance to change.

Factors Influencing the Roles of HR Managers in Organizations

Studies on the role played by HR managers in the M&As processes are scarce. According to Bjorkman and Søderberg (2003), top management's low expectations with regards to the strategic contributions of the HR function seem to have contributed to the limited HR managers' role in the post-merger change process. Furthermore, organizing the work of HR to satisfy the expectations of international organization, HR managers appear to focus on how to organize their work rather than their potential contributions. Top management's focus on financial rather than people management, and the use of external business consultants to play a key role in HR development may influence the non-strategic role of HR managers. In addition, the theoretical study of Aguilera and Dencker (2004) have highlighted that the role played by HR managers in cross-border M&As is conditional on the strategic rationale chosen by merging firms.

Research evidence has suggested that a variety of factor affect the role of HR managers in organizations (e.g. Kane and Palmer, 1995; Kelly and Gennard, 1996, 2001; Hall and Torrington, 1998; Truss, 2003). These factors include the orientation of top management to people management; the expectations line managers have of HR and the skills, abilities and competencies of HR managers themselves.

The importance of top management in defining the roles of HR has been shown in many studies (e.g. Beer et al., 1985; Purcell and Ahlstrand, 1994; Kelly and Gennard, 1996, 2001; Nankervis et al., 2002; Ulrich, 1997; Kane et al., 1999; Truss, 2003; Jacoby, Nason and Saguchi, 2005). These studies have emphasized the role of both the top management team as a whole and the role of the CEO/MD as a single actor. A commonly shared opinion is that the attitude of top management towards people management defines the role of the HR managers in organizations.

Line managers have been argued to have effect on the role of HR managers. As Truss, Gratton, Hope-Hailey, Stiles and Zaleska (2002) have argued, the line managers' expectations for HR function affect the role assumed by the function. Their expectations are important because they perform the strategic role together with the HR function. Studies have shown that there are differences in the perceptions of line managers and HR managers in the meaning of the strategic role of HR. Wright, McMahan, Snell and Gerhart (2001) found that line managers rated all five defined roles of HR lower than HR executives, especially the roles with more strategic importance. Buyens and De Vos (2001) pointed out the differences in value perceptions concerning the value of HR between line managers, top managers and HR managers.

RESEARCH METHODOLOGY

The methodological choice reported in this paper provided elucidates the guidelines on how to gather the needed information to achieve the objectives of the paper. This increased the possibility to receive appropriate answers to the research questions and make valuable conclusions. The study adopted an interpretive approach anchored in qualitative methodological approach. The qualitative study is defined as an inquiry process of understanding a social or human problem, based on building a complex, holistic picture, formed with words, reporting detailed views of informants, and conducted in a natural setting (Creswell, 1994). For qualitative studies the research problems needs to be explored because little information exists on the context that may shape the understanding of the phenomenon being studied.

Because the focus of the study was on the role of HR managers in M&As process, participants were selected on the basis of following criterion: all participants had to be HR managers of firms that has been acquired or has acquired or merged with other firms. Participants were recruited from a database compiled by Association of Ghana Industries. Although business registers in Ghana are not complete (Buame, 1996), the Association of Ghana Industries' Register is updated every three months.

In-depth interviews were conducted with 29 HR managers of firms created as result of a merger or acquisition in Ghana. The study period ranged between January and June, 2010. The data collection lasted between 45 minutes to one hour for each respondent interviewed. Interviews in qualitative research are usually wide ranging, probing issues in detail. After some introductory questions, all participants were asked the same questions.

RESULTS AND DISCUSSION

Although conducting qualitative interviews may appear scattered, unsystematic, or even daunting to professionals unfamiliar with the techniques, what the researcher does with the textual data once they are collected may appear even more so. What is required for the analysis of texts and observational data is some means of discovering systematic patterns or relationships among categories (Agar, 1980).

The data were analyzed mainly according to guidelines for analytical induction (Marshall and Rossman, 1995). Marshall and Rossman (1995) identified five modes of inductive data analysis: organizing the data; generating categories, themes, and patterns; testing the emerging hypotheses against the data; searching for alternative explanations of the data; and recording the finding. In analyzing the data collected, the researcher began with a careful and an intensive reading of the transcripts from the responses collected through the interview sessions. This helped the researcher to gain familiarity with the text and also discover patterns or relationships that are repeated among respondents. After careful reading, the data was coded using tabs and marginal notes. After coding, the results or findings were organized and analyzed based on the research objectives.

HR Managers' Involvement in M&As Process

One of the objectives of this paper was to examine how involved HR managers were in the initial planning and preparation of the M&A and the specific advice they gave during the process. The findings showed that majority of the respondents were involved in the initial planning and preparation of the M&A process. Their roles at this stage involve providing an HR audit to the M&As team. As one respondent indicated:

''as the HR manager, I was made aware of management's intention to go into merger one clear year before the due date. I was required to undertake a massive HR audit in order to ascertain the manpower base of my company and the implications of the merger. Following this, I developed an integration map for the merger. I got the HR audit of our partner company which helped me in this regard. I made management aware of the implications; the need to lay-off staff and the need to re-grade and redesign the staffing matrix among others''.

Another respondent also stated that:

''I was invited and informed about the decision to merge the two companies. I submitted an HR audit as requested. This gave us a comprehensive picture of the staff numbers of the two companies… my advice basically was informing management to take a proactive step in putting mechanisms in place that would enable us deal with the possibility of laying off staff and to prevent early resistance to the deal''.

Some of the HR managers indicated that they were not involved in the initial planning and preparation of the M&As process revealed that:

''normally, the bigger company coming to acquire the smaller company does all the due diligence using their own consultants or transaction advisors. The local HR manager has little to say. At a certain point, when the due diligence is completed and it comes to the implementation that is when the HR manager comes into sharp focus…it is when the acquirer wants to know the staff numbers that they consulted the HR manager on issues regarding redundancies, training and ways to deal with staff at this point''.

The findings showed that HR managers were consulted during the M&A process. Management was advised by the HR managers in most cases to retrain those workers who were likely to be retained after the M&As process. Again, all key stakeholders should get involved in early negotiations with the unions to determine severance pay for affected workers, and also employ the necessary educational interventions to deal with the inevitable culture challenges that are likely to be encountered.

The findings from the paper also showed that majority of the respondents were involved in the initial planning and the preparation of the M&A of their individual companies. HR managers provided management with HR audits and advised on the need for the firms to put in place mechanisms to deal with redundancies, resistance before they occur and train workers who would be retained in advance.
Bjorkman and Søderberg (2003) emphasized this role and stated that the HR manager should take part in the process from its earliest phase (i.e. from the due diligence period).

According to Barros (2003), 63% of M&As fail due to problems related to management of people, because HR managers rarely take part in the beginning stage of the M&A process. This paper did not reveal any people related problems in M&As in Ghana. Perhaps this is explained by the level of involvement of the various HR managers from the very beginning of the M&As process.

Communications Role of the HR Manager in M&As Process

The paper sought to examine the role of HR managers in communicating M&As information to key stakeholders. All the 29 respondents revealed that they were actively involved in communicating to employees and stakeholders the necessary information about the M&A. One of the respondents indicated that:

"*I held branch meetings with our staff to let them know the implications of this M&A, the opportunities and threats it posed and how they could maximize this opportunity……I visited each branch twice prior to the exercise".*

Indeed, HR managers are recognized and assigned the responsibility to communicate issues likely to affect to employees in the organization. Most of the respondents indicated that sensitizing workers about the incoming change, letting employees know that the advantages of the M&A outweigh its disadvantages help in defusing any form of fear among employees thereby gaining their supports. A respondent stressed that;

‘‘the HR was the main department tasked to communicate the M&A decision to the staff especially, those who were to be sent home and what was to be done for them as well as the need for the merger… the communication was initially done through e-mails, staff durbars and the use of the company bulletin. The durbars were held every two weeks and after two months, the affected staff was written to’’.

In HR managers’ communication roles, a respondent indicated a strict adherence to the Labor Act, 2003 (Act 651) in Section 65 in subsections 1 (a) and (b) in their approach to communicating the M&A decision to the key stakeholders. The Act states that;

“when an employer contemplates the introduction of major changes in production, program, organization, structure or technology of an undertaking that are likely to entail terminations of employment of workers in the undertaking, the employer shall (a) provide in writing to the Chief Labor Officer and the trade unions concerned, not later than three months before the contemplated changes, all relevant information including the workers likely to be affected and the period within which any termination is to be carried out, and (b) consult the trade union concerned on measures to be taken to avert or minimize the termination as well as measures to mitigate the adverse effects of any terminations on the workers concerned such as finding alternative employment”.

In respect of the frequency of communication, the results showed that some of the HR managers organized regular meetings and durbars to communicate information to the stakeholders about the M&As. The findings showed that the meetings and durbars are organized to minimize to provide information to employees about the purpose of the merger or acquisition.

A respondent indicated that:

“you therefore have to hold workers durbar to inform them about the truth, to dispel rumors, misinformation or disinformation”.

On the contrary, another respondent held the view that communication during M&As should be controlled. According to this respondent, since information coming out of M&As are not always good news, employees may not be committed after the M&A announcement.

Challenges of Integration During M&As

Some of the challenges identified in the research included culture incompatibility, adopting entirely new work processes, the problem of ‘power play’ where the dominant company strategically puts its personnel in key positions for example, finance and operations.

A respondent indicated that:

‘‘there is the problem of different organizational cultures that must be merged. This is not achieved easily. It is really difficult, in fact, currently we are still training our staff to adapt to a new culture that matches our new strategy. I guess this may take a while to achieve. The second problem is the difference in organizational structure. It is HR’s role now since the merger inevitably demands a restructuring to suite the acquiring company’s strategy’’.

In a response to a question as to how they dealt with the challenges, a respondent revealed that

“we organized orientation and reorientation for both local and expatriate staff to appreciate the need for a shift in culture and also realign behaviors and attitudes to meet the new corporate strategy. As regards the acquiring company getting its people into key positions, it was management decision for which HR has nothing much to do”.

Further, the findings also identified training, education and communication as the main approaches adopted by the various HR managers in resolving the challenges posed by the M&A.

This paper showed that HR managers were actively involved in communicating issues concerning M&As to the key stakeholders. HR managers used various media to communicate the M&A decision. These include meetings, durbars, company bulletins, newsletters, and using union leaders. These efforts indicate the importance of communication to the success of any M&A process. The importance of communication to all M&As was amplified by Clemente and Greenspan (1998) who observed that, failure to communicate with employees could result in the spreading of unfounded rumors and anxiety increases that may lead to negative attitudes towards the M&A. This is supported by Cartwright and Cooper (1996) that the success of M&As to a large extent, depends on the effective communication from the first minute of the announcement of the deal. The findings of this study did not reveal any major resistance to the M&As in Ghana. This shows that the HR managers did play their communication roles effectively.

The findings of the paper revealed that M&As process comes with a lot of challenges of integration. These challenges include cultural incompatibility, changes in organization structure leading to job losses or changes in positions and job roles, a shift from superior-subordinate performance system to a more integrated multi-tiered performance management approach.

There was also a challenge of synchronizing compensation schemes of M&As that may be accepted by the stakeholders. These challenges from the study were dealt with through various interventions including education, training and re-training, orientation and the use of change champions. Pande and Krishnan (2007) for instance, identified cultural dissimilarity as a major challenge which when not handled well may lead to altered behavior, reduced productivity, stress, illness, accidents , conflicts and a total lack of commitment to make mergers work.

Nickels, McHugh and McHugh (1999) have reiterated this point, arguing that cultural incompatibility is being widely reported as a cause of poor merger performance. Even though this study identified culture as a challenge, its negative effects as suggested by the supporting literature was not reported in any of the companies this research studied. This indicates that the HR managers had used the right interventions and did so effectively.

Staffing the New Company after the M&A

The study sought to examine the role of the HR managers in staffing the new organization after the M&A deal is concluded. All the 29 respondents revealed that they organized training and orientation workshops and seminars to get their workers prepared for their jobs. The following were some of the responses given:

‘‘we retrained them and also embarked on orientation and used job rotation to get them prepared to become multi-skilled, a prerequisite for the new tasks and jobs introduced,…we used coaching, on-the-job training, formal education where some of the staff were sent outside to acquire specific experiences that the organization itself could not give in-house’’.

‘‘Employees were sent on short courses organized by various educational institutions in Ghana and abroad. The HR department itself organized re-orientation breaks where the values, the mission and vision of the firm are explained to stakeholders…………..re-integration workshops, personal upgrade seminars, matured students classes and small scale business skills workshops…customer service training, general management and development programs…………..training in computer skills for those who now have to use the computer in their daily jobs’’.

These were the efforts deployed by the various HR managers to get their individual workers to live up to and work through the changes and demands of their new companies and the success of the M&A strategy.

The paper also showed that the various HR managers used training and retraining workshops, orientation and coaching to prepare their workers to enable them do their individual tasks effectively. According to the findings, the training workshops were organized either on- the –job or outside the company especially organized by educational training institutions. This finding is consistent with Flippo's (1980). Flippo (1980) emphasized the importance of training as a means to achieve change in organizations. This is supported by Antila (2006) who conceived that, employee training and development is not only an activity that is desirable but also an activity that an organization must commit resources to if it is to maintain a viable and knowledgeable work force.

Managing Compensation During M&As

The most contentious issue HR managers have to deal with in any M&As situation is the issue of compensation (Pande and Krishnan, 2007). In view of this, one objective of the paper was to examine how HR managers deal with issues concerning compensation. Majority of the respondents indicated that they played active roles in designing severance packages for affected staff as well as a new compensation scheme for the new companies. For instance, the respondents mentioned that they considered factors such as the number of years an affected employee worked with the company, his or her current salary level, the company's financial strength and more importantly the number of workers affected before they took any compensation decisions. A respondent stressed that:

"the length of service, the affected worker's current pay, the company's financial strength, the number of people going, because at the end, it is going to translate into cost."

In respect of designing a common compensation scheme for the new company especially when it involves bringing employees who were paid on different compensation structures, majority of the respondents indicated it was a major challenge to them. They mentioned synchronizing pay tunes of expatriate workers and local employees had been one of the major problems.

The paper showed that in designing severance packages for affected staff, majority of the respondents were involved. This indicates how important the issue of compensation is in organizations. However, in designing a common compensation scheme that ensures equity for the new companies after the M&As, about half of the respondents did not face any problem at all because all they had to do was to use industry benchmarks which posed no difficulty. The other half of the respondents believed that there were disparities which they had to resolve that required a lot of effort and careful consideration. According to Pande and Krishnan (2007), two Indian firms; Glaxo and Wellcome could not merge for seven years because of high pay differential between their workers. The reason for the relatively smooth synchronization of pay schemes in Ghana could be attributed to the absence of high pay differential between the merging companies.

FRAMEWORK OF FACTORS THAT INFLUENCE HR MANAGERS' ROLE IN M&As

The main purpose of the paper was to propose a framework of the factors that influence HR managers' role in M&As process. The framework is the study's contribution to the literature. The framework also serves as a guide to HR managers and other individuals interested in M&As as a field of study.

Support from Management

The findings suggest that support from top management has an impact on the role of HR managers in an organization. Management support determines the role of HR managers in the M&A process. As one of the respondents indicated:

''having a seat on the management team reflects the importance of HR in an organization, however, it seems that the place on the management team does not automatically mean a strategic role or comprehensive involvement in the acquisitions process. It gives access to information, but the way information is used is left to HR managers themselves''.

This appears to suggest that support from top management is a critical factor in determining the effectiveness of the role the HR manager. As observed by Antila and Kakkonen (2007), many M&As cases take place in business units (BUs) and sometimes are not discussed at corporate level. For this reason, there is the need for good relationships and trust among HR managers, line and top managers.

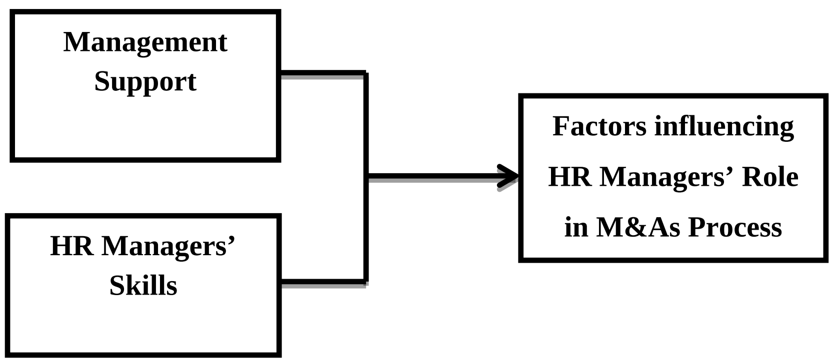
Skills of HR Managers in M&As

The most important factor that can affect the roles of HR managers is their ability to show the importance of HR-related issues in the M&As process. This argument was presented several times by both HR managers and other senior managers (Antila and Kakkonen, 2007). The technical, procedural and managerial skills of the HR Manager and their knowledge of the organization's business are two critical issues are very important in defining the factors the impact HR managers' activities in the M&A process.

One of the respondents indicated that,
''my previous experience in M&As affects the roles I can play in the organization when it comes to decisions concerning subsequent M&As''.

In addition, HR managers need to be active and use self-initiative in their organizations. HR managers must actively figure out what is happening in the organization and offer their help to the managers responsible for M&As. Another respondent argued that *''the HR manager's capabilities and activities are tightly connected to his or her interpersonal skills as well''*. This suggests that interpersonal skills and the ability to build relationships with other managers definitely affect the roles of the HR manager. Figure 1 below depicts a framework of factors that influence HR managers' role in M&As process. The rationale behind the framework is that despite decades of academic research, scholars have paid little attention to the factors that impact on HR managers' role during M&As process.

FIGURE 1
Framework of the Factors that Influence HR Manager's Role in M&As Process



CONCLUSION

The various responses from the paper showed that the HR managers were actively involved in the M&As that have taken place in Ghana. Their involvement in the initial planning and preparation of the M&As, their advice in addition to the active roles they played in communicating the relevant information to stakeholders impacted positively on M&As process of the studied organizations. This appears to explains why there has not been any noticeable or violent resistance the M&As in Ghana.

The paper also showed that the HR managers were effective in using interventions to identify challenges such as cultural incompatibilities, redundancies, and staffing the new company. The lesson here is that with effective education, training and orientation coupled with effective communication and leadership, the challenges of M&As can be mitigated. This again explains why most organizations have not experienced any M&As failures in Ghana.

The findings showed that management support and skills of HR managers influence the role played by HR managers in the M&As process. Finally, the findings indicated that HR managers were involved in designing compensation systems that ensured equity for the companies created out of the M&As. Even though disparities and differentials were reported, the HR managers reported no difficulty in having their employees accepting the salaries negotiated for them. This finding runs contrary to what Pande and Krishnan (2007) reported in two Indian companies. They reported two cases of legal issues related compensation in M&A activity. According to Pande and Krishnan (2007), the two companies could not merge for seven years because of high pay differential between their workers. The relative ease with which HR managers in Ghana are able to design an acceptable compensation systems during M&As may be that there were no high pay differentials between employees of the acquired and the acquiring firms or between employees of the merging firms.

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Retail Health Clinics: Sustain or Close? A Case Study

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The operation of retail health clinics is a challenging endeavor for most healthcare professionals. Typically, healthcare professionals are not trained in retail sales or marketing, have little or no exposure to the critical success factors related to retail sales, and generally have difficulty in adapting what they know about healthcare management to the retail setting. This case study is an opportunity for healthcare practitioners and students to understand the unique characteristics and challenges of operating a unique aspect of primary care in the retail setting.

DECISION DILEMMA

Angela Tobias, the Director of Outpatient Services at Upper Midwest Healthcare System (UMHS) was in a real bind. She had responsibility for five retail health clinics (RHC) as part of her responsibilities and they were not meeting expectations. Within UMHS, each of the RHCs was expected to financially perform independently while contributing to the goals of the health system. They were expected to break-even at eighteen (18) months and then go on to profitability. After three years not one of Angela's RHCs was able to achieve its targeted financial performance and Angela was asked to bring a recommendation to her upper management team to refocus the RHCs, revise the financial expectations, or to close one or more of them.

The RHC were planned and opened during calendar year 2007. Angela's due diligence included conducting market research, building a budget, identifying qualified staff and coordinating lease agreements with a large retail chain prior to the targeted opening dates. The RHCs were each closely associated with its nearest system hospital, although they reported to Angela, not the hospital. Angela knew her job and perhaps her future with UMHS depended upon her successfully resolving the operating performance of the RHCs. She had six months to work with and needed to have a decision recommendation to give to her senior leaders by the end of the calendar year.

INTRODUCTION

The retail health clinic phenomenon began in the early 2000s as an alternative to the more expensive and inherently slower alternatives of hospital emergency rooms, urgent care centers, or physician office visit (Malvey and Fottler 2006). RHCs are identifiable by four characteristics including location within a big box retail store or pharmacy, a limited menu of services that do not require imaging or laboratory services, typical staffing by nurse practitioners, and affordable pricing structures (Bohmer 2007).

In 2005 Angela Tobias and the planning staff at UMHS were investigating ways to accomplish several objectives. Their first priority was to find a way to shift unnecessary visits from the Emergency Departments (ED) of their hospital system to other more appropriate venues. Over 30% of their ED visits were unnecessary because they were neither urgent nor emergent. Those visits could easily be accommodated in alterative outpatient settings. Angela also wanted to find a means to direct more patients to the hospital-based physician practice groups that were developing within the UMHS. Having hired over 80 primary care practitioners over the course of the previous 14 months, the UMHS needed to enhance their patient load and productivity as quickly as possible to reduce the subsidies that were being made. Angela was also accountable for positioning her outpatient services within the continuum of care. She knew that retail health was a fast growing segment of the care continuum and she did not want the system's competitors to gain an advantage over UMHS.

RHCs operated using several different models including leasing space as a tenant of a host retailer, functioning as a department within a larger retailing organization, and being a joint venture partner with a host retailer. Angela found a national retailer that had wanted to expand their RHC presence in every market where they could find a hospital or health system to partner with. The retailer only used the landlord-tenant model, therefore Angela developed lease agreements with five different stores within the chain. The five RHCs began operating within six months of each other in communities across the upper Midwest. The most distant were 160 miles apart.

OPERATING CHALLENGES

The stores were opened with great fanfare and excitement as more convenient and less costly options for care. The business plan that Angela had prepared called for the RHCs to break-even in 18 months, so a slow start-up was not unanticipated. Patient visits ranged from 3 or 4 patients per day to nearly a dozen at the busiest clinic.

The first challenge Angela encountered was staffing the RHCs. She knew that retail health care could not be delivered in the traditional way using a staffing model similar to a typical physician office. She needed to use nurse practitioners (NP) (advanced practice nurses) to staff the RHCs 12 hours per day, seven days per week. Finding sufficient numbers of qualified staff to cover the five RHCs would require 11 to 15 full-time equivalent NPs. Moreover, the NPs were required to be credentialed by the payers before the RHC could bill for and collect for services rendered. Angela was eventually able to find and hire sufficient staff; however in the early months the RHCs were not remaining open on a consistent basis due to variability in staffing and the start dates of the newly acquired staff. Angela worked to get the NPs credentialed but prior to having them officially sanctioned by all payers, several of the RHCs could only accept cash. That experience upset patients and Angela later determined that it hurt the long-term viability of some of her RHCs.

Angela understood that marketing and advertising were essential to a successful health care service. She had not realized that the nuances of retail marketing were just as applicable in the RHC as they were in any other retail setting. Angela was constrained by her lease agreements. She had not understood the significance of many of the terms and conditions of her leases. While her RHCs were co-branded with the retailer, she was unable to do any independent marketing or advertising on site. There would be no outdoor signage, no interior signage, and no special UMHS signage. Angela quickly came to understand that if someone did not know that her clinic was already in the building, they would never think to consider stopping there for health care services.

The location of the RHCs became another challenge for Angela. Four of her five stores were located in mid-sized communities with consistently high foot traffic. One of her RHCs was located in a resort community. The resort community retail foot traffic was consistent with the others; however, Angela quickly found that the propensity of travelers and vacationers to use a RHC was much lower than the more established communities. The location of the RHCs within the stores also varied. Angela had to accept the space that was available at the time she signed her leases. She found that other retail services such as optometry, photography, nail care, and retail health care were normally found near the checkout stands. Two of her RHCs were located in the rear of the store or near the pharmacy. Angela learned too late that the majority of customers enter and exit near the grocery section and may never pass by the RHC or even know that it exists.

From a health system perspective Angela was challenged to demonstrate that the RHCs contributed to corporate strategy and goals. UMHS has a standardized electronic health record (EHR) in each of its hospitals. While Angela was planning the rollout of the RHCs she included the cost for information technology in her planning. Unfortunately she was required to use the EHR that would be used in the hospital-owned physician practices. Like many health system's information technology platforms, the hospitals' EHR system and the physician practice management system EHR would not integrate. Angela was left with good data on the RHC patients but no way to demonstrate downstream revenue generation or identify those patients that ended up with admissions, procedures, or surgeries within UMHS.

Over time, the greatest challenge for Angela was clinic volume. The clinics failed to evolve as quickly as she had hoped and she knew she needed 20 to 23 patients per day at each of her RHCs to break-even. Many of the retail stores where RHCs are located have over one million people pass through their doors every year, yet most of her RHCs couldn't get above 20 patients per day. Moreover, Angela's staff would begin to complain when they reached that magic number of 20 – 23 patients per day since the staffing model was such that one NP and one support staff were all that were authorized to work. In some instances, only the NP was staffed in order to manage costs. Since volume was an indication of consumer awareness and satisfaction, Angela became very concerned that not enough patients were familiar with the RHCs or comfortable seeking care in a retail setting. She pondered how she could increase volume at each of her RHCs and not take business away from her urgent care business or be seen as competitive with the area physician office practices. She needed a way to be collaborative and build her business at the same time.

CRITICAL SUCCESS FACTORS

During Angela's Master's program in Health Care Administration she learned about critical success factors (CSF). She knew that if she could identify the CSFs associated with retail health care, she might be able to leverage those factors to make the RHCs more successful. Through a search of the literature and by interviewing a number of RHC operators, Angela learned that there were a limited number of CSFs that she needed to concentrate on. She found that patient visits, leadership commitment, marketing, store manager support, staffing, and location were the most commonly cited factors as the key determinants of success. Angela added an electronic health record to this list because she knew that without the ability to track patients through the system, she would not be able to demonstrate that her RHCs were making a contribution to the goals of the system. A number of other factors were revealed in her research but Angela determined that many of them were peculiar to a specific site and not generalizable across all of her RHCs.

DEVELOPING A RATIONALE FOR A RECOMMENDATION

Angela thought long and hard about the challenges she faced and the CSFs that she discovered in her research. She decided to develop strategies to employ the CSFs and leverage them against the challenges. If she could create a reasonable plan, one that she herself would likely approve, then she would try to sell it to the UMHS leadership team in an effort to continue to provide the retail health services to the communities they serve.

Angela knew that the staffing issues were behind her and she had overcome that challenge. She knew that the credentialing issues would remain but if she were able to get all NPs within UMHS credentialed upon hire, then if and when they came over to work in her RHCs she could bill for them immediately. Staffing would not be an issue in the recommendation.

Marketing was a very different issue. Angela had discovered that a couple of the NPs had developed an excellent relationship with the store managers where they worked. They had learned how to leverage that relationship to get concessions on marketing and advertising that were not typically allowed. For example, sandwich board signs appeared on the sidewalks outside the retail stores. Directional signage was used in the parking lots, which of course had the dual benefit of advertising that a RHC did exist within the store. Promotional leaflets paid for by the clinic were used in a dual marketing effort to advertise back to school supplies and sports physicals. Angela knew if she and the other NPs could develop a similar relationship with the other store managers that the two successful NPs had, she could overcome the marketing problems.

Angela wondered if she could affect the location challenge. Certainly the stores were not going to move to different communities with different demographics, however one possibility might be to move the RHC to a different store in a more affluent market. The location within the store was also rather fixed in that the lease agreements were multiple year agreements. Moving them within the store would mean that more appealing space needed to become available which was unlikely. For those RHCs without the prime location within the store, it would continue to be a challenge to drive foot traffic past those clinics.

Angela knew that she would have to demonstrate that her RHCs were making a strategic contribution to UMHS goals. She needed to be able to drive referrals to and from UMHS physician practices. She also needed to be able to provide a relief valve for the EDs within the system and unload unnecessary ED visits to her RHCs. And, she needed to calculate downstream revenue by proving that patients originating in her RHCs were showing up in UMHS hospitals.

MAKING A RECOMMENDATION

Angela was troubled by the fact that among her five RHCs, four were getting close to a break-even and the other one was losing more money than all the rest. She felt with some more time and effort she could get four RHCs to break-even or even make some money. She also knew that without leadership commitment to an investment in IT, there would be no way to identify downstream revenue and prove the benefit to the system of this part of the continuum of care. Angela understood that it was a relationship business; that the NP at each RHC had to have a collaborative relationship with the store manager for that RHC to be successful. There would be no enhanced marketing or advertising without it and she probably couldn't develop the relationship for the NPs. Volume was dependent upon marketing and consumer awareness and developing that awareness was dependent upon the relationship between the provider and the store manager.

Angela was about to make a recommendation to her senior leadership team that she knew had to be in the best interest of UMHS. She wanted to ensure that her own integrity and reputation would not be compromised in making a recommendation. If she were to recommend that the system sustain operations of the RHCs, she knew she would be personally charged to make them successful. Failure to do so could damage her career and any future opportunities within the system. If she recommended that they close, it could be viewed as an indictment of her ability as a manager. Angela understood that there were CSFs that she could not change and there were CSFs that she could leverage to enhance the potential for success. She would soon be in front of her system leadership making a case for the decision.

This case was prepared by the authors and is intended to be used as a basis for class discussion. The views presented here are those of the authors based on their professional judgment and do not necessarily reflect the views of the Journal of Management Policy and Practice.

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Asymmetries in Supply Chain Management: Differences Between Poland and Spain

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Although asymmetries are commonly presented as a natural, almost organic, part of collaboration agreements, many researchers merely mention them in extant literature. This paper extends previous qualitative studies concerning asymmetric relationships by means of a quantitative and comparative, cross-sectional, supply chain study in two environments, one emerging (Poland) and one mature (Spain). It posits that asymmetries change the behaviors of participants in collaborative arrangements. The findings suggest that asymmetry in supply chain management is multi-faceted and influences various relationships disparately. The results of this investigation clarify real problems of supply chain collaborations and performance improvements.

INTRODUCTION

Research frequently identifies inefficiencies in real-world applications of supply chain management (SCM). Moberg et al. (2003) define seven constraints that block supply chain collaboration, including lack of trust, different goals, and lack of transparency in information systems. These constraints limit collaboration agreements with strategically important partners and products (Tang & Gattorna, 2003; Fynes, Voss, & Burca, 2005) and reduce supplier involvement in SCM in many sectors. Morgan, Kaleka and Gooner (2007) and Lambert (2008) present similar viewpoints, affirming that development of the right types of relationships, without constraints and limitations, and the creation of value propositions for customers are critical for supply chains. The rationale behind this is that cooperation and mutual interest lead to performance improvement at the system level (Vaaland & Heide, 2007).

Limitations and constraints increase complexities in SCM processes and motivate organizations to introduce new tools and forms of inter-organization relationships. Measurements of total costs (LaLonde & Raddatz, 2002), customer satisfaction (Chan, 2003), effective consumer response (ECR), vendormanaged inventory (VMI) (Bailey & Francis, 2008), and continuous replenishment programs (CRP) (Van Hoek, Kaleka, & Gooner, 2001) are a few of them. Bailey and Francis (2008) and Monczka, Trent, & Petersen (2006) report that results from the use of these tools are unsatisfactory. Their application reduces costs but does not result in other expected benefits such as reduction of tensions in relationships among supply chain partners through the exchange of information and transparency.

In this situation, a question arises concerning what promotes these kinds of managers and organizational behaviors in the SCM process. Recent research suggests that one of the causes of such varying behaviors and constraints is the presence of asymmetries in the SCM process (Chen & Chen, 2002; Blomqvist, 2002; Johnsen & Ford, 2008; Thomas & Esper, 2010). Understanding the characteristics of asymmetries and their influences on critical success variables such as trust, collaboration, integration, innovation, and costs (LaLonde & Raddatz, 2002) may enable a clearer view of the real situation for SCM partners (Johnsen & Ford, 2008) so they can better define business strategies and evaluate operations management. Better understanding of asymmetries may clarify influences on behaviors, communications, perceptions, and feelings of partner relationships in political and economic tumult (especially that occurred in Europe in recent years). Consequently, this paper addresses the following research questions:

- What effects do asymmetric behaviors have on critical success variables of the SCM process such as trust, collaboration, integration, innovation, and costs?
- Does the relationship between asymmetries and critical success variables of the SCM process display similar behaviors in various markets?
- Of SCM processes can asymmetries influence the total performance?

Thomas and Esper (2010) suggested in their research that investigation of asymmetries in the SCM process is lacking in the literature. They present an exploratory, qualitative study concerning asymmetric relationships that we extend to a quantitative, comparative, cross-sectional, supply chain study of two environments; one emerging (Poland) and one mature (Spain). According to Gupta Hanges, and Dorfman (2002), Latin European and eastern European regions represent disparate economic environments. The Spanish market is characterized by a weak performance orientation, institutional collectivism, humane orientation, and medium to high maturity in management relationships due to an affective autonomy orientation. As an emerging environment, the Polish market has a strong focus on future, high-level risk; it represents relevant societal influence on management practices and medium to low maturity in management relationships. Although the markets differ, it is possible to observe similarities in how the two markets conduct development of management processes, population, territory, and economy transition processes.

This study is one of the first quantitative examinations of asymmetries. Our proposal investigates relationships between SCM success attributes and managers' behaviors under the influence of asymmetries in different operational environments. We hope results of this investigation clarify real problems of supply chain collaborations and performance improvements.

SUPPLY CHAIN RELATIONSHIP CHARACTERISTICS AND THEIR IMPORTANCE IN UNDERSTANDING ASYMMETRY

A number of different attributes and behaviors have been incorporated into frameworks that have attempted to define the nature of supply chain relationships. However, as supply chain relationships are complex phenomena, describing their characteristics meaningfully proves difficult without simplifying reality. For this reason, we will focus our suggestions related to asymmetries on some aspects, while leaving others in the background (Holmlund, 2004).

Thomas and Esper (2010) define asymmetry as a lack of perceived dyadic balance or proportionality of relationship attributes and/or behaviors. Following this definition, we define asymmetry as a relationship in which only one part (partner) controls most or all actions and resources used in business relationships, and two or more parts (partners) are different in terms of information, knowledge, power, negotiation, and cost. These control activities should enable acting, organizing, and thinking differently from opponents to maximize benefits to one, exploit an opponent's weaknesses, retain an initiative, and/or gain greater freedom of action (Manwaring, 2001). Accordingly, we present some samples of these differences and relate them with managers' behaviors.

Information asymmetry exists where differences in quantity and quality of information among organizations are identified. These differences negatively influence bargaining power and decision-making processes (Ewans & Wurster, 2000). Technologies used during the management process influence strategic decisions made by organizations. Organizations often ignore the capacity and level of technology currently available in supply chain partnerships (Sarkis & Talluri, 2004). These behaviors denote knowledge asymmetry.

Regardless of size, any organization in a supply chain must assume a leadership function. Large organizations do not easily accept leadership from other organizations. They believe that bigger size suggests automatic occupation of a leadership role (Moberg, Spey, & Freeze, 2003). This behavior is an example of size asymmetry. As one form of relationship among partners in a supply chain, negotiation reflects commitment that exists for both parties (Morgan & Hunt, 1994). Lack of commitment in a relationship can destroy the negotiation process and that behavior pattern will lead to asymmetry (Xiao, Xia, & Zhang, 2007). Power asymmetry is an imbalance of power in the collaboration process. One firm authoritatively transfers responsibilities of performance to others, forcing them to comply with strict operational guidelines (Maloni & Benton, 2000). Cost asymmetry is associated with a lack of adequate compensation made by supply chain partners who have not obtained expected benefits due to cost reductions (Gunasekaran & Kobu, 2007).

Asymmetries normally have a negative influence on SCM, especially in medium and long-term relationships. Asymmetries hinder benefits (Gundlach & Cadotte, 1994), create interest conflicts (Heide & John, 1990), increase inefficiencies in the improvement process, and distort the orientation of relationships (Kumar, Stern, & Anderson, 1995). Asymmetries reinforce the supply chain relationship as a zero-sum game in which one player wins because another loses (Brandenburger & Nalebuff, 1996). Under these conditions, asymmetries lead to undesirable effects from management's behavior (Williamson, 2008), but can also lead to positive effects, especially in short-term relationships where minimizing overall costs produces additional income (Williamson, 1988) or stabilizes a relationship due to a dominant leadership position (Thomas & Esper, 2010). Asymmetries support the dominant position of one part, forcing other parts to invest in their own skills, technologies, and organizations to maintain product competitiveness (Griffith, Harvey, & Lusch, 2006) and stimulate the search for and implementation of innovation (Cox, 2004). We shall now turn to the conceptual developments that will be the basis for our examination of asymmetric relationships in supply chains.

CONCEPTUAL DEVELOPMENT

Extensive research focuses on explaining sources of supply chain problems that hinder development (Case, 2002; Dröge et al., 2003; Fawcett & Magnan, 2002; Mentzer et al., 2001; Moberg et al., 2003; Munson et al., 2000; Sabath and Fontanella, 2002; Simatupang & Sridharan, 2002 and 2005b; Zhou & Benton, 2007). However, research focuses on only partial, secondary causes of supply chain inefficiencies, without paying much attention to asymmetries. We shed some light on the complex role of asymmetry in SCM.

Although relationships of collaboration and integration among organizations of similar size, strength, and power are highly recommended (Ramsay, 2001; Schoenher & Mabert, 2006), they rarely exist in real life. Some difficulties are related to a series of conflicts that appear during both processes. For example, conflicts of interest among the strongest partners, which prevent meeting objectives, are caused by the lack and inaccuracy of information (Cigolini et al., 2004), or conflicts of interest due to the lack of objective alignment or conflict related with environmental risk assessment, and create problems in SCM (Simatupang & Sridharan, 2008).

Possessing and distributing information within a relationship are primary attributes of power and decisions. In many cases, decision processes focus on avoiding unwanted results rather than identifying and solving basic problems because information and power asymmetries diminish coordination and increase risk and opportunism in managers' behaviors (Maloni & Benton, 2000), implying achievement is advantageous to a dominant manager (Thomas & Esper, 2010). Risk and opportunity are two critical elements in the process of managing an organization. Risk and opportunity influence costs (Laffont & Tirole, 1993; Williamson, 1988, 1991). Frequently, it is possible to observe a natural need for cost reduction and a desire to reduce internal conflicts to increase organization performance (Williamson, 1988). This trend obliges managers to reduce costs constantly using all means, formal and informal. The original balance of power breaks and the relationship becomes asymmetric again because not all partners have the necessary resources. Williamson (2008) suggests that solving this problem involves interchanging resources and power within collaboration or integration processes but this is likely be difficult under asymmetrical pressure.

Equilibrium between cost and performance in comparison to value of resources and capabilities provided by partners appears to be an appropriate strategy of asymmetric SCM processes. Companies cannot overvalue resources and capacities, considering only those that serve to create and consolidate competitive advantage (Logan, 2000). Again, this is difficult to achieve under asymmetrical pressure, where subjectivity in assessing benefits of supply chain influences, perceptions of risk and lack of security held by all participants, diminish the protective value of resources and increase asymmetric behaviors of managers (Skjoett-Larsen, 1999).

In negotiations among supply chain partners, convictions of benefits concerning trust and integration encourage symmetry in the balance of power. Asymmetry means destruction of this balance, resulting in negotiation reductions and position destabilizations. In decentralized chains where there is participant decision-making independence, asymmetries increase both strong competition for limited resources and demands from the same customer among all partners (Stewart & Fenn, 2006). Each partner increases individual benefits, which may reduce total results for the chain (Hall & Porteus, 2000).

In essence, organizations and managers must actively manage asymmetric relationships to prevent their disappearance. We propose that the best way to find solutions for problems related to managers and organizations operating under asymmetrical pressure are using game theory concepts and tools. Game theory is concerned with analysis of situations involving conflict, cooperation, and decision-maker (players) interactions (Leng & Parlar, 2005). These relationships correspond to decentralized forms of supply chains that are frequently today's reality. This type of supply chain is characterized by a presence of multiple and independent decision-making processes, with different players and varying tactics, roles, and scenarios (Stewart & Fenn, 2006). In centralized networks where a unique decision-maker defines the optimum solution and coordinates activities of participants to achieve better results, application of game theory is not viable (Leng & Parlar, 2005). Game theory applies cooperative and non-cooperative games to solve problems related to conflict, cooperation, and decision-making processes. Cooperative games are developed in a scenario where partner organizations enjoy good communication and leaders reach agreements on improving overall benefits and effectiveness of the supply chain. Managers act rationally to achieve goals by achieving overall objectives established by consensus (Carter, 1993), a typical scenario for symmetric relationships. Under asymmetries, it is more appropriate to apply non-cooperative games. The theory of non-cooperative games studies behaviors of participants who try to maximize individual goals in competitive situations characterized by a lack of communication or when one partner takes on a leadership position while other partners moderate decisions, seeking improvement in this new scenario (Wang & Parlar, 1989).

When considered through a game theory lens, it is likely that firms will seek solving conflicts and managing asymmetries through cooperation, though it obligates rules negotiation, forms, and methods of carrying out cooperative agreements. A partner's cooperation could be appropriate in cases of conflict where managers do not control factors that influence performance, do not control conflicts of interests, and do not manage the relationships that are affected by asymmetries (Taylor, 2004). Naturally, such solutions can only be achieved if managers in each stage of the SCM process agree to cooperate.

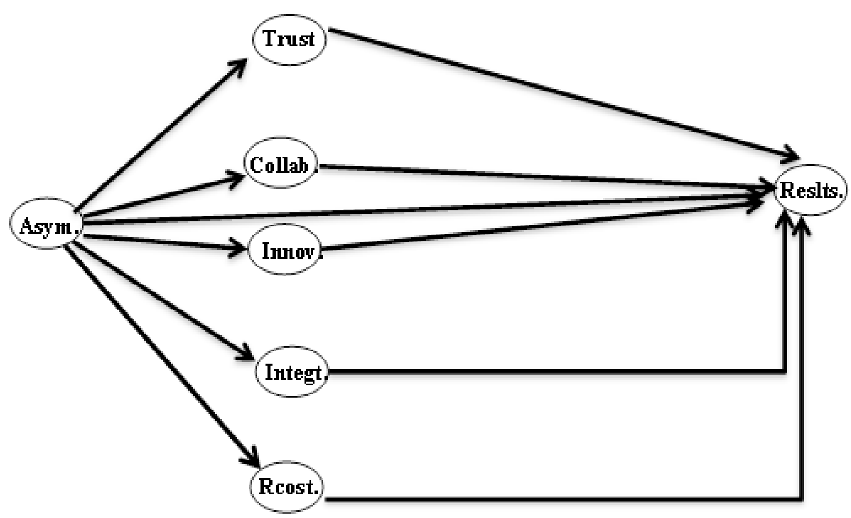
RESEARCH PURPOSE

A major contribution of this research is analyzing difficulties caused by asymmetries in the SCM process. This study demonstrates that a combination of asymmetries, not just one, is a primary source of supply chain discontent. We posit that asymmetries have direct and indirect negative influences on critical SCM success variables such as trust, collaboration, integration, cost and innovation (Figure 1).

To define measures of the influences that produce asymmetries, we draw on Spekman et al. (1998) who analyzed complexities of supply chain management from a partnership perspective in dynamic environments. These measures allow us to discover the effects of asymmetry reliably, thereby reflecting the intensity of relationships among supply chain partners. This selection also makes possible a detailed analysis of restrictions that prevent or hinder the full development of SCM.

The literature demonstrates a lack of clarity concerning definitions of collaboration, especially in sequences or combinations of elements (Baratt, 2004). Following Anthony (2000), we define collaboration as an agreement established between two or more organizations for participation to carry out joint planning and management for overall supply chain performance. In line with this definition, collaboration among supply chain partners means setting common objectives related to the achievement of mutual benefits through a process of decision making and solving problems collectively (Stank et al., 2001). Collaboration promotes joint actions to reduce costs, improve communication and coordination of knowledge creation, and help develop strategic and operational plans (Bowersox et al., 2003; Cannon & Homburg, 2001). The asymmetries can distort the process of collaboration despite the application of non-cooperative game tools that can diminish their influence.

FIGURE 1
RESEARCH MODEL



Recent literature identifies and measures trust as a multidimensional construct (Handfield & Bechtel, 2002; Kwon & Suh, 2004, 2005). We use a single dimension of trust because we can then present relationships among variables, trust, and asymmetries more easily. The relationship between asymmetry and trust as a multidimensional construct leaves room for future research. According to Maloni and Benton (2000) and Rousseau et al. (1998), trust is defined as confidence in the honesty and integrity of a partner, which permits acceptance of vulnerability of their expectations, intentions or behaviors. A lack of trust is observed when activity coordination is difficult and where inter-organizational commitment during cooperation meets barriers. Without trust and commitment among partners, efficient SCM based on skills and common actions is difficult to attain (Gao et al., 2005). Considered through a game theory lens, trust implies that supply chain partners elect cooperative games and do not consciously make unexpected decisions that affect norms and roles. We expected, following Anderson and Weitz (1992), that inter-organizational asymmetry destroys both trust and commitment and has a negative influence on supply chain performance.

Coupled with collaboration and trust, integration is one of the primary factors in the process of improving performance, and represents an important source of competitive advantage in SCM (Gimenez & Ventura, 2005). We define integration according to Teck-Young (2005) as the degree to which supply chain activities, functions and resources have been networked together. This connection must provide increased speed of adaptation of the supply chain to changes in a business environment, thereby reducing risk (Van Hoek, Harrison, & Christopher, 2001; Bowersox, Closs, & Stank, 2003). Integration is an opportunity, especially for small firms, in an asymmetric environment. Specialization strengthens the position of small businesses in an asymmetric relationship concerning larger partners (Blomqvist, 2002), reducing risk. Therefore, integration involves recognizing relevant changes within organizations. To obtain the best performance, organizations employ various forms of integration in their relationships, from personal and casual to formal bilateral or multilateral agreements reflecting contracts (Heide, 1994). According to game theory, contract becomes a tool in the integration process, especially in decentralized supply chains. During the game, supply chain members coordinate individual strategies to improve total supply chain performance and individual profits (Leng & Parlar, 2005). According to Liu and Çetinkaya (2009), we expected that asymmetries influence negatively establishment of contracts, producing intractable conflicts, opportunistic behavior, and decreased performance.

Innovation is particularly important, especially from the perspectives of partnership duration, transparency, accessibility to information, integration, and sharing risks and benefits (Teck-Young, 2005). The term innovation is notoriously ambiguous and lacks a single definition. Following Miotti and Sachwald (2003), we define innovation as a platform for diversification and improvement of products and/or processes that permits efficient firms to achieve success. In dynamic, contemporary environments, most collaboration agreements require frequent redesign, improving efficiency and performance of the entire supply chain (Lam, 2003; Corsten & Felde, 2004). This means that changes cannot produce improvements through price increases alone; they must also include increases in research and development investment (Wouters & Kopczak, 2000). Innovation improves competitive advantage in a supply chain and encourages organizations to adopt necessary technological given the inherent and organizational changes. However, variability of asymmetry, partners might have differing objectives and varying degrees of tolerance toward organizational change, including IT innovation. Under the influence of power, technology, and information asymmetries, it is difficult to predict the needs of innovation to ensure products required by customers. We expect asymmetries to affect the innovation process negatively, distorting the effectiveness of demand hedging and formulation of strategies. According to game theory, firms align objectives, share profits, and manage asymmetries to construct shields to innovation.

Savings implemented by one organization in a supply chain (the initiator) may produce a cost increase for other participants. According to relational models of collaboration, inequality requires compensation, the amount of which depends on the savings and cost structures of supply chain partners (Sucky, 2006). If a compensation system is not working properly, deviations reinforce cost asymmetry and damage performance. The social model of organizations, in which rational goals are achieved through member commitment and loyalty, allows participants to subordinate individual goals to organization goals. High satisfaction, trust, and integration lead to suitable environments for relationships among members of different organizations (Cummings, 1977). We expected that asymmetries would make these difficult.

RESEARCH DESIGN

Unit of Analysis and Data Collection

We conducted a survey among Polish and Spanish firms. As a control element, we introduced a number of organizational parts of the supply chain that reflect market maturity (Appendix A). An emerging market satisfies two criteria: rapid economic development and large increases in opportunism and rent-shifting (Nelson, Tilley, & Waler, 1998). Emerging markets require large investments to cover customer needs, distribution infrastructures, brand adaptations, and development of specific knowledge (Porter, 1990). These requirements are difficult to cover with supply chains made up of few partners. Opportunism, uncertainties, and risks in emerging markets are additional factors that promote large supply chains (Plomp & Batenburg, 2010). In the Polish market, a majority of supply chains include more than three partners, which confirms previous observations.

A mature market is characterized by high economic development and well-established market mechanisms (Kotabe & Helson, 2000). Maturity systematically increases capabilities of a business process and an organization's ability to deliver higher performance over time (Rosemann & de Bruin, 2005). In a mature market, domestic and global suppliers compete intensely for market share and customer satisfaction (Johansonn, 2000). At this stage of development, organizations focus on competition and cost control (Porter, 1985). This is much easier to obtain with smaller supply chains, which is reflected in the Spanish market, where most supply include fewer chains than three members.

The firms included in both samples were selected randomly, and operate in various industries (e.g., electronics, metal, mining, auto, food, construction, logistics services, electric materials, pharmaceutics, cosmetics, energy, textiles, and others) to obtain multi-sector data. Annual sales for the organizations ranged from fewer than €10 million, from €10 to 60 million, and to more than €60 million. For both populations, we selected companies employing at least 50 people and those that had an identifiable purchasing department (Appendix A). Polish and Spanish samples characteristics are presented in Table 1.

TABLE 1
SAMPLE CHARACTERISTICS
POLISH AND SPANISH

PROPERTY STRUCTURE		Poland		Spain
	N	%	N	%
Majority capital – Polish/Spanish	62	76.5%	10	19.3%
Majority capital – Foreign	18	22.2%	38	73.0%
Difficult to say	1	1.2%	4	7.7%
TOTAL	81	100%	52	100%
SALES VOLUME	N	%	N	%
less than 10 mln euro	26	32.1%	5	9.6%
between 10-60 mln euro	20	24.7%	10	19.2%
more than 60 mln euro	7	8.6%	0	38.5%
Difficult to say/have not to say	23	28.4%	2	23.1%
Declined	5	6.2%	5	9.6%
TOTAL	81	100%	52	100%

Most cross-cultural researchers consider the more rigorous back-translation process superior to simple direct translation from one language to another (Brislin 1970; Brislin et al., 1973). Questionnaire items were translated into Polish and Spanish simultaneously using back-translation method to ensure the same meaning and interpretations of variables. The surveys were sent to a representative set of firms belonging to CEL (Spanish Center of Logistics) in Spain which cooperates with L. Kozminski Academy in Poland.

Following Dillman (2000) and Scandura and Williams (2000), a web-based questionnaire was e-mailed to each organization and manager in the samples. Questionnaires were sent directly to purchasing and supply chain managers. They are involved largely in negotiations and contacts with suppliers and the most important customers, and are the most knowledgeable information sources (Hill & Jones, 1992; Kumar, Stern, & Anderson, 1993). The survey was conducted in two stages. The first took place in Poland. The initial sample size in Poland included 387 companies; 173 agreed to participate. The number of returned surveys was 99. Following a thorough analysis of the answers, 18 questionnaires were rejected due to incomplete answers; 81 questionnaires were considered valid, which is a 20.93% response rate. In the second stage, the questionnaire was e-mailed to 168 Spanish managers. The response rate after the first mailing was 12%, insufficient for the purposes of this study (Basnet et al., 2003). The outcome of the second mailing led to an increase in the number of returned questionnaires to 52, a response rate of 30.95%.

Measurement Development

Measurement scales for the constructs were adapted from well-validated measures reported in extant literature. Items adapted from Heide and John (1990) and Teck-Yong (2005) measured collaboration, a construct that measures cooperative behavior among supply chain members, measured collaboration. Managers evaluated responsibilities of conducting joint actions for overall supply chains. Trust is from Kumar, Stern and Anderson (1993) and Hanfield and Bechtel (2002); this measure focuses on the relationship among partners in the management process. Respondents evaluated confidence in the honesty of supply chain members. Innovation is from Gilley and Rasheed (2000) and Spekman et al. (1998); these items relate tracking links among supply chain partners, with particular attention given to tracking tools such as electronic data interchange (EDI) and computer aided design/computer aided manufacturing (CAD/CAM). We asked managers whether they considered supply chain innovation to be a platform for diversification and improvement in firm efficiency. Integration is from Teck-Yong (2005) and Chen and Paulraj (2004); this measure captures dedication to logistics integration and inter-firm communication. Participants were asked how integration improves firm performance. Cost is from Power, Sohal, and Rahman (2001) and Cannon and Homburg (2001), measuring purchasing, production, and logistics costs. Performance is from Dröge, Germain and Spears (1996) and Dröge and Germain (2000), capturing dedication to financial and non-financial items. In both cases, respondents evaluated each partner's performance. Finally, Thomas and Esper (2010) and Maloni and Benton (2000) inspired items for asymmetry. We asked managers to evaluate differences in supply chain partner behaviors (Appendix B).

Each construct was defined using 3 to 5 items and a 7-point Likert-scale (Kumar, Stern, & Anderson, 1993). Following Dillman (2000), the original research instrument was pretested with interviews of Spanish and Polish managers, ensuring that items were formulated accurately. Several items were reworded and edited, and some were dropped to improve overall comprehension, establishing content validity of the instrument.

A three-phase cycle estimated the effect of non-response bias. Initially, responses selected randomly from the earlier phase were compared with responses from the latest survey phase (Lambert & Harrington, 1990). Since there were no differences between responses, it was concluded that there was no non-response bias in the data (Armstrong & Overton, 1977). Following Mentzer and Flint (1997), approximately 30 non-respondents from each sample group were contacted to determine why they did not participate. Managers alleging lack of time was a major cause of non-participation.

As recommended by Podsakoff et al. (2003), we performed Harmon's single-factor test for both the Polish and Spanish samples. Results demonstrated that no single factor accounted for the majority of model variance (22.92% for Poland and 35.01% for Spain) suggesting that common method bias was not of great concern and was unlikely to confound not an issue, and that data were robust. Interpretations of results are in (Tables 2 and 3). The conclusion was that non-response biases were robust.

TABLE 2
COMMON METHOD BIAS HARMON'S TEST
SPAIN

Total Variance Explained							
Component		**Initial Eigenvalues**			**Extraction Sums of Squared Loadings**		
		Total	**% of Variance**	**Cumulative %**	**Total**	**% of Variance**	**Cumulative %**
Dimension	**1**	**9.453**	**35.009**	**35.009**	**9.453**	**35.009**	**35.009**

TABLE 3
COMMON METHOD BIAS HARMON'S TEST
POLAND

Total Variance Explained							
Component		**Initial Eigenvalues**			**Extraction Sums of Squared Loadings**		
		Total	**% of Variance**	**Cumulative %**	**Total**	**% of Variance**	**Cumulative %**
Dimension	**1**	**6.188**	**22.919**	**22.919**	**6.188**	**22.919**	**22.919**

The research model of the study was quantitative positivist (Straub et al., 2004), and the research objective was explaining and predicting (Gregor, 2006). To estimate parameters of the model, we used structural equation modeling (SEM). We consider asymmetry (Asym), collaboration (Collab.), integration (Integt.), trust (Trust), innovation (Innov.), cost reduction (Rcost), and performance (Rslts) as latent variables.

Research Model Estimation and Validation

SEM assessed relationships between latent constructs, and structural relationships between them (Figures 2 and 3).

FIGURE 2
SEM ANALYSIS RESULTS FOR POLISH MODEL

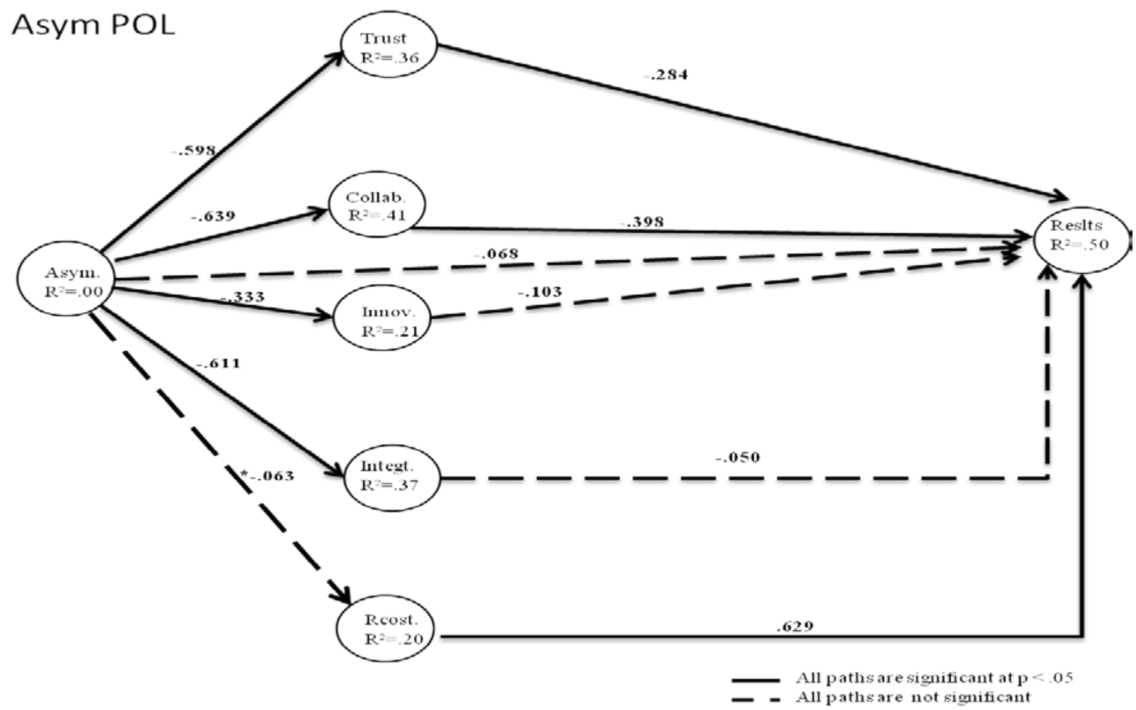
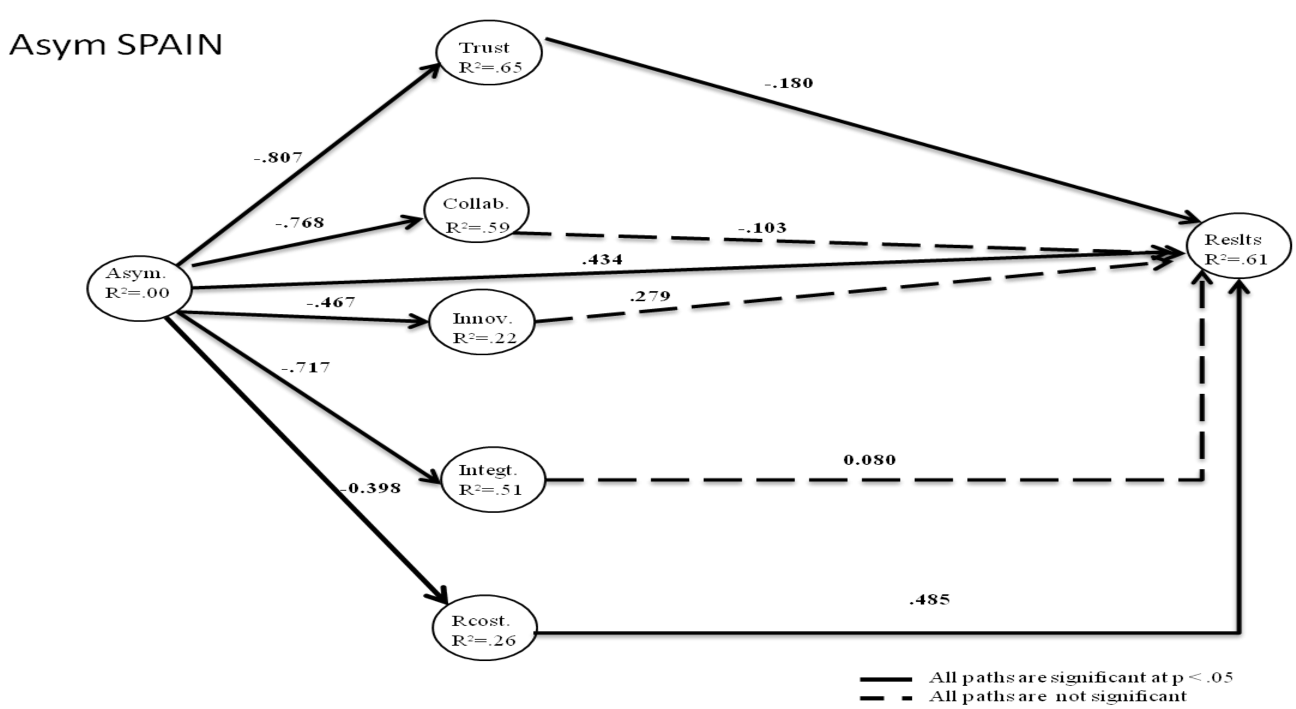


FIGURE 3
SEM ANALYSIS RESULTS FOR SPANISH MODEL



The model was estimated by applying the Partial Least Squares (PLS) algorithm using smart PLS2.0.M3 software (Ringle, Wende, & Will, 2011). The PLS algorithm choice was made according to several criteria. The phenomenon under investigation is relativity new, and its modeling is in a developmental stage. PLS's recommendations concerning sample size, prediction accuracy, and comparatively low demands on data multinormality requirements (Joreskög & Wold, 1982; Henseler et al., 2009) were well suited to this study. Analysis was conducted in three steps. First, the models were estimated for Poland and Spain. We tested whether there was a difference between the two countries on the SCM aspects considered in this research. This last test was made by means of the GeSCA software (Hwang & Park, 2011). Model validation was conducted in two phases. We assessed the measurement model in the first and the structural model in the second. Each construct was assessed following Anderson and Gerbing's (1988) suggestions for unidimensionality, internal consistency, indicator reliability, and convergent and discriminant validities. Constructs representing asymmetries, collaboration, results, and integration were reflective (Figures 2 and 3). An overview of model quality criteria is presented in Table 7 for Poland and Table 8 for Spain.

Considering the measurement model for the Polish sample (Table 10 in Appendix C), we checked for unidimensionality of the factors using an exploratory factor analysis (EFA). Loadings were between 0.838 and 0.481 and four of 33 values were above the 0.6 threshold, admissible as high, and none were below 0.4, considered low. For the Spanish sample (Table 11 in Appendix C), values ranged from 0.856 to 0.417 with seven values of thirty-three between 0.6 and 0.4, and none were below 0.4 (Gefen & Straub, 2005; Gerbing & Anderson, 1988).

Internal consistency was measured using Cronbach's alpha coefficient and the composite reliabilities (Tables 6 and 7). For both samples, internal consistency indicators exceeded the threshold for exploratory research of 0.700 (Cronbach, 1951; Werts et al., 1974; Nunally & Bernstein, 1994). Statistical significance was assessed by means of 200 re-sample bootstrapping (Tables 8 and 9).

As for the indicator reliability, all path values were significant ($p<0.05$), and most (Tables 10 and 11 in Appendix C) had values greater than 0.7. The minimum path value was 0.417, admissible for an exploratory model (Chin, 1998). Convergent validity was assessed by the average variance explained (AVE) whose values (Tables 6 and 7) in most cases were above the 0.5 threshold for both samples (Forner & Larcker, 1981).

As a criterion for discriminant validity, we considered cross-loadings (Tables 13 and 14 in Appendix C) obtained by correlating component scores of each latent variable with all other variables. For both samples, loadings of each indicator were higher for their own constructs than for other constructs, suggesting the constructs differed sufficiently (Chin, 1998). To conclude validation of the external model, we assessed discriminant validity following Fornell and Larcker's (1982) criterion, requiring a latent variable to share more variance with its assigned indicators than with any other latent variables. The AVE square root of each latent variable should be greater than its squared correlation with any other latent variables. This condition was fulfilled in both samples (Tables 4 and 5). Latent variable correlations for both countries show moderate to high values, indicating convergent validity (Tables 2 and 3).

We assessed validity of the structural model (Tables 4, 5, 6 and 7). In both samples, the models' coefficients of determination (R^2) showed values not substantially high (>0.670), but certainly more than moderate (>0.333), and clearly above the lower weak threshold of 0.19 (Chin, 1998; Ringle, 2004). For Poland (Table 6), four path coefficients were not significant: Assym with Costred (t=0.466), Assym with Results (t=0.395), Innov with Results (t=0.771), and Integ with Results (t=0.319). The remaining relationships were significant at $p<0.05$. For Spain (Table 7), all latent variable path coefficients were significant except Coll with Results (t=0.548), Integ with Results (t=0.391), and Integ with Results (t=1.085). We also tested whether there was a difference between the two countries concerning SCM. We imposed cross-group (Poland and Spain) equality constraints on path coefficients. Results showed that the null hypothesis of equality between groups was rejected for the relationships Assym with Coll and Assym with Integ, not rejected for the remaining correlations, Assym with Results, Coll with Results, and Integ with Results (Tables 8 and 9).

TABLE 4
POLAND
LATENT VARIABLE CORRELATIONS
AVERAGE SQUARE ROOT ON DIAGONAL PER THE FORNELL-LARCKER CRITERION

	ASSYM	COLL	COSTRED	INNOV	INTEG	RESULTS	TRUST
ASSYM	0.685						
COLL	0.639	0.769					
COSTRED	-0.063	0.047	0.715				
INNOV	0.333	0.619	0.061	0.663			
INTEG	0.612	0.610	0.108	0.480	0.651		
RESULTS	0.068	-0.034	0.638	0.061	0.113	0.713	
TRUST	0.598	0.638	0.134	0.448	0.610	0.243	0.676

TABLE 5
SPANISH
LATENT VARIABLE CORRELATIONS
AVERAGE SQUARE ROOT ON DIAGONAL PER THE FORNELL-LARCKER CRITERION

	ASSYM	COLL	COSTRED	INNOV	INTEG	RESULTS	TRUST
ASSYM	0.774						
COLL	0.768	0.693					
COSTRED	0.398	0.353	0.641				
INNOV	0.467	0.505	0.655	0.719			
INTEG	0.717	0.663	0.486	0.534	0.679		
RESULTS	0.434	0.366	0.733	0.649	0.507	0.715	
TRUST	0.807	0.632	0.375	0.379	0.665	0.445	0.796

TABLE 6
POLAND
QUALITY MODEL MEASUREMENTS OVERVIEW

	AVE	Composite Reliability	R Square	Cronbach's Alpha	Communality	Redundancy
ASSYM	0.470	0.813		0.709	0.470	
COLL	0.591	0.878	0.408	0.826	0.591	0.240
COSTRED	0.511	0.805	0.104	0.776	0.511	0.002
INNOV	0.414	0.776	0.111	0.765	0.414	0.041
INTEG	0.423	0.783	0.374	0.761	0.423	0.151
RESULTS	0.508	0.837	0.497	0.759	0.508	-0.008
TRUST	0.456	0.765	0.358	0.711	0.456	0.157

TABLE 7
SPAIN. QUALITY MODEL MEASUREMENTS OVERVIEW

	AVE	Composite Reliability	R Square	Cronbach's Alpha	Communality	Redundancy
ASSYM	0.554	0.859		0.794	0.554	
COLL	0.480	0.808	0.589	0.696	0.480	0.282
COSTRED	0.411	0.726	0.158	0.789	0.411	0.059
INNOV	0.517	0.839	0.219	0.761	0.517	0.108
INTEG	0.461	0.805	0.514	0.711	0.461	0.228
RESULTS	0.511	0.839	0.614	0.760	0.511	-0.006
TRUST	0.634	0.873	0.651	0.804	0.634	0.404

TABLE 8
POLAND TOTAL EFFECTS

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	Standard Error (STERR)	T Statistics (|O/STERR|)
ASSYM->COLL	-0.639	-0.646	0.060	0.060	10.598
ASSYM->COSTRD	-0.063	-0.043	0.136	0.136	0.466
ASSYM->INNOV	-0.333	-0.349	0.117	0.117	2.840
ASSYM->INTEG	-0.611	-0.633	0.074	0.074	8.285
ASSYM-RESULTS	-0.068	0.078	0.173	0.173	0.395
ASSYM->TRUST	-0.598	-0.608	0.071	0.071	8.382
COLL->RESULTS	-0.398	-0.367	0.136	0.136	2.918
COSTRD->RESULTS	0.629	0.609	0.097	0.097	6.458
INNOV->RESULTS	0.103	0.112	0.133	0.133	0.771
INTEG->RESULTS	-0.050	-0.066	0.157	0.157	0.319
TRUST->RESULTS	-0.284	0.288	0.121	0.121	2.349

DISCUSSION

In this section, the findings from this study are used to describe the influence of asymmetries for SCM success factors (attributes) and organizational behaviors related to them. The literature provides many examples that confirm the importance of asymmetry influences on SCM success (Thomas & Esper, 2010), but not all suggest similar valuations. SEM allows testing of all hypotheses simultaneously. Partial Least Squares (PLS) revealed that three hypothesized paths were not significant in the Spanish sample and four were not significant in the Polish sample (Figures 2 and 3). The remaining relationship paths were significant. Tables 8 and 9 illustrate the findings discussed below.

TABLE 9
SPAIN TOTAL EFFECTS

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	Standard Error (STERR)	T Statistics (|O/STERR|)
ASSYM -> COLL	-0.768	-0.769	0.055	0.055	14.078
ASSYM -> COSTRD	-0.398	-0.413	0.140	0.140	2.838
ASSYM -> INNOV	-0.467	-0.497	0.152	0.152	3.070
ASSYM -> INTEG	-0.717	-0.733	0.075	0.075	9.524
ASSYM -> RESULTS	0.434	0.464	0.134	0.134	3.230
ASSYM -> TRUST	-0.807	-0.817	0.046	0.046	17.691
COLL -> RESULTS	-0.103	-0.068	0.188	0.188	0.548
COSTRD -> RESULTS	0.485	0.489	0.143	0.143	3.383
INNOV -> RESULTS	0.279	0.274	0.145	0.145	1.919
INTEG -> RESULTS	0.080	0.040	0.206	0.206	0.391
TRUST -> RESULTS	-0.180	0.221	0.166	0.166	2.085

Asymmetry, Trust and Performance

Results suggest the importance of asymmetric influences regarding trust in both markets. In Poland, managers particularly valued organizational reputation in the market. In asymmetric environments, organizational reputation diminishes with reduced trust, precluding maintenance of equilibrium in partnership relationships and reducing the possibility of conflict reduction. In Spain, trust in asymmetric environments was particularly important for sharing knowledge, resolving problems through mutual agreement with supply chain partners, and improving a firm's reputation. These behaviors allow implementation of standards that maintain perceptions of partner honesty, especially in international relationships. These findings confirm Chen and Chen's (2002) observation that agreements with reputable partners improve the position of organizations in international networks, reduce competitive uncertainty, and strengthen bargaining power.

Trust showed a negative relationship with performance in asymmetric environments in both Polish and Spanish markets. Under asymmetry, joint interpretation of data suggests that a reduction in trust among partners generates diminished cooperative performance while influencing company components that integrate the supply chain. Partners remain cautious, especially when sharing asymmetric information. Negative results reinforce strong resistance from managers to provide data based on costs and benefits to other supply chain partners, limiting cooperation under supply chain agreements in both markets. This behavior may increase opportunism in strategic decision-making (Wathne & Heide, 2000), and reflects a preference for implementing local solutions as a way to obtain performance improvements (Simatupang & Sridharan, 2005b).

Asymmetry, Integration, Innovation and Performance

We expected asymmetry to hamper integration in the supply chain and to influence total supply chain performance negatively independent of market type. Surprisingly, results demonstrate that asymmetry reduces integration in both markets, but this negative effect does not influence performance value. This means that in both markets, integration is a key driver to achieve performance improvements in any type of relationship, symmetric or asymmetric. Managers operating in both markets pointed out that integration processes are especially critical for performance goals and future development projects. Extant research supports these results. Bagchi et al. (2005) and Swink et al. (2007) highlight the importance of product-process technology integration and supply chain integration in terms of direct effects on business performance. In a study of supplier integration in new product development, Ragatz et al. (1997) found that supplier integration leads to performance improvements and competitive advantages for firms.

Related to asymmetry, innovation, and performance variables, we expected similar negative relationships as with integration. The results showed that asymmetries have a negative influence on innovation in both environments, but this negative influence does not affect total supply chain performance. It is interesting to note that Polish and Spanish managers indicated that in asymmetric conditions, risk and uncertainty - related to entry of a new partner in a supply chain - do not reduce investment in innovation. Previous research supports this result. Cooper and Yoshikawa (1994) argue that the alternative of not cooperating means losing business or competitive advantages obtained from an innovation. As Thomas and Esper (2010) suggest, small firms especially accept asymmetric relationships related to new partner entry if they permit maintaining the status quo.

Also interesting was the observation that managers in both markets indicated that several information technologies integrated in SCM process, especially computer-aided decision-making software, promised new opportunities for competitive advantages in business. This relates to the findings of Ranganathan et al. (2004) that internal assimilation and external diffusion of Web technologies affect benefits realized through SCM. According to these findings, integration and innovation are complex, exerting disparate impacts on supply chain relationships, especially in asymmetric environments.

Asymmetry, Collaboration, Cost Reduction and Performance

In both samples, relationships between collaboration and performance were strong and negative, but the hypothesis that collaboration, influenced by asymmetries negatively, affects supply chain performance was confirmed only in Poland. Managers in emerging markets indicated that collaboration process development is limited, especially when it is affected by asymmetries of information, costs, and benefits. The influence of such asymmetries also hinders the process of aligning objectives considered essential for development of collaboration. Previous research suggests a positive relationship between collaboration and performance. Simatupang and Sridharan (2005a) describe positive associations among collaboration, profits, and competitive advantages. Min et al. (2005) and Bowersox, Closs, and Stank (2003) argue that collaboration reflects the union of organizations with the purpose of reducing risk, sharing information, defining common goals, offering resources, and improving performance. Despite positive effects of collaboration, Sabath and Fontanella (2002) claim that this is the biggest disappointment that has appeared in the implementation of various strategies in SCM.

Costs such as inventory costs, production costs, and purchasing costs showed a tendency toward reductions. We used tendency of cost reductions because independent estimates of firm costs were unavailable. Analysis of observed effects of asymmetries (power and size especially) on costs demonstrated interesting findings in Spain. First, asymmetric relationships led to a lower potential for cost reductions in mature markets. Second, asymmetric relationships slowed the reduction of inventory costs. Third, asymmetric relationships pushed organizations to improve purchasing costs. Previous research supports these observations. Johnsen and Ford (2008) posit that large companies avoid highly specialized companies unwilling to establish common goals, and hence, lose influence. Wouters (2006) confirms that outsourcing often involves higher costs for third parties because they often need to make investments. Kouvelis, Chambers, and Wang (2006) suggest that high levels of information-sharing help coordinate the supply chain and avoid negative results from the bullwhip effect. Subramani and Venkatraman (2003) recommend safeguarding against asymmetries, especially in vertically oriented supply chain partnerships where buying or supplying firms are vulnerable to the exercise of power by more powerful partners. In the case of emerging markets, findings suggest asymmetries in SCM do not influence a tendency toward cost reductions. However, asymmetries reinforce instability of organizational cost structures, which reduce the capacity of outsourcing (Fine & Whitney, 1996).

Asymmetry - Performance

Analysis showed positive and direct relationships between asymmetries and performance in Spain. Contrary to expectations, results indicate that increasing asymmetry leads to performance growth in the supply chain. These findings confirm that the consequences of asymmetry vary widely across disparate relationships, with both positive and negative outcomes for organizations. We speculate that in mature markets, managers should consider a bilateral, short-term relationship under asymmetric conditions more equitable than a multilateral, long-term agreement in symmetric environments. They expect that the effect of the relationship is bigger in situations where the risk of opportunism is high than under the protective effect of symmetry. Findings are consistent with Simatupang and Sridharan (2008), who suggest that managers are unwilling to relinquish power and opportunity to achieve maximum profit even if it means reducing risk and symmetry. Findings also support Thomas and Esper (2010), who suggest that temporal aspects of asymmetric relationships in SCM demonstrate contradictory results. In Poland, we did not find a direct relationship between asymmetry and performance.

ACADEMIC AND MANAGERIAL IMPLICATIONS

Results provide knowledge of an academic and managerial nature that helps improve understanding of the nature of asymmetric environments. Examining the effect of asymmetries on SCM success factors provides valuable insights into searching for efficiency and performance improvements in partnerships. Such understandings of asymmetries not only allow SCM partners to manage them properly, but also create an opportunity to improve relationships between partners. The process of seeking the right position for each partner in supply chain relationships includes special implications for managers. Managers can apply asymmetry knowledge to consider options on the availability and ability to invest in innovation. The level of investment made by parties in product and process innovation depends directly on the value of risk related to return, but not on returns alone. Risk assessment depends largely on positions partners occupy in SCM. Asymmetries distort demand knowledge and the effectiveness of strategies to cover it. It is difficult to understand the needs of innovation in asymmetric conditions. Inclusion of asymmetries in management helps managers focus decisions and resources more effectively.

From an academic viewpoint, this study adds new applications of game theory to searches for solutions to SCM problems. Construction of game-theoretic models permits the finding new solutions to asymmetric behaviors adopted by managers in contemporary supply chain collaborations. These are important tools for assisting managers from varying organizations, enabling them to change strategic relationships while considering different asymmetry types, levels, sizes, and strengths.

CONCLUSIONS

Research generally investigates asymmetries across no more than one or two relationship characteristics; e.g., Chen and Chen (2002) study trust and commitment, and Harrison (2004) examines power. These analyses do not permit examination of the complexity of asymmetric relationships in SCM. Findings from this study confirm that asymmetry in SCM is a complex and multifaceted issue, influencing various relationships during collaboration processes differently. In asymmetric environments, profit is not fixed and can enlarge through collaboration (Simatupang and Sridharan, 2005), occurring when all supply chain members maximize gains for all participants. We do not find the same relationships among all partners; effectiveness or even a tendency toward optimization and information flow does not appear in SCM. Not all organizations understand their role in the supply chain, though some invest great effort to improve their positions. Despite the benefits derived from supply chain participation, cooperation among these organizations remains limited. In only a few cases did changes in organizational culture and cooperative decision-making accompany changes related to implementation of the supply chain strategy, even though these changes were regarded as essential. In accord with Moberg et al. (2003) and Zsidisin et al. (2005), our findings corroborate that delays in implementation of this strategy are due to widespread belief that the supply chain strategy is a long road that takes time.

Dyadic relationships among sellers and buyers were the most characteristic in SCM for both environments. Risks associated with relationships between buyers and sellers do not depend solely on power; they are the result of mismanagement (Williamson, 2008). Asymmetries increase opportunistic trends through inappropriate relationship structures, and foster malpractice in SCMs. Asymmetric conditions promote such practices as a natural part of management, hampering noticeable improvement.

Our observations corroborate that information, capacities for innovation and trust are essential in dynamic and unstable environments. Only a few organizations involved in SCM possess all three simultaneously. In most cases, organizations use these assets for asymmetric cost reductions, reductions that do not translate into a reduction of total costs for the supply chain despite the privileged position of the organization that initiated it. Regardless of all the benefits that create a balanced relationship, every organization wants collaboration in which its success depends on an ability to maintain control over critical assets. During negotiations of strategic objectives, purchase and supply agreements, price, delivery, and quality (among others), all parties look for opportunities to create an advantageous imbalance.

Recent research (Mentzer et al., 2001; Min et al., 2005; Moberg et al., 2003; Munson et al., 2000; Sabath & Fontanella, 2002; Simatupang & Sridharan, 2002, and 2005; Williamson, 2008) suggests several approaches that explain failures in collaboration agreements or barriers to their development. Based on empirical research, we believe the existence and influence of asymmetries in SCM are the causes of distortions. These distortions include differences in the definition of strategic objectives, low-level integration, lack of transparent decision-making, use of distorted information, and greater importance given to particular outcomes in supply chain performance. Results confirm the universal character of distortions produced by asymmetries in SCM. Regardless of the environment (mature versus emerging markets), sector of operation, value of transactions, and agreement sizes, causes of deviations in management are similar. Decisions or corrective actions also have universal character in operational applications. From this viewpoint, it is feasible to build a universal model of managerial behavior. This model is especially useful when organizations plan start-up or subsidiary business units in various markets.

LIMITATIONS

Although we found support for and confirmation of results in two organizational contexts, conclusions derived from this research should be guided by the study's limitations. Managers are basing their responses on perceptions and opinions. For this reason and despite statistical treatment, responses to the questionnaires are not completely free of the subjectivity. Another limitation relates to the general character of the hypothesis; this study is exploratory. This characteristic means that the approaches to the problems were made from general assumptions.

FUTURE RESEARCH

Future research should investigate factors regarding managerial behaviors in SCM in the United States market. Results of such research could close the spectrum of analysis dedicated to the influence of asymmetries in SCM from the viewpoint of a different market. The research design is based on a cross-sectional survey, which is advantageous because results are more representative than sector studies. However, it is desirable to perform similar studies with a larger number of firms. Future research should investigate the influence of asymmetries in value chain construction. A deeper analysis of issues relating to value creation in asymmetric conditions could lead to a different assessment of competitiveness and business strategy. However, the presence of differences between the behaviors of the samples are analyzed only in an exploratory way, leaving the study of how environmental factors can affect the stability of the relations proposed in the research model for subsequent research.

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APPENDIX A

SAMPLE COMPANIES IN POLAND

NUMBER OF PARTNERS IN SUPPLY CHAIN	N	%
more than 6	44	86.4%
3 to 6	31	11.1%
3 or fewer	6	2.5%
TOTAL	81	100%
Industry	N	%
Automotive	16	19.8%
Mechanical Electrical & Process Engineering	12	14.8%
Food & Drink	10	12.3%
Building sector	10	12.3%
Automation	9	11.1%
Electronics & IT Hardware	8	9.9%
Metals & Minerals	4	4.9%
Power	3	3.7%
Furniture & Furnishings	2	2.5%
Pharmaceuticals	2	2.5%
Cosmetics	1	1.2%
Chemicals	1	1.2%
Clothing, Footwear, & Fashion	1	1.2%
Legal services	1	1.2%
Mining	1	1.2%
TOTAL	81	100%

SAMPLE COMPANIES IN SPAIN

NUMBER OF PARTNERS IN SUPPLY CHAIN	N	%
more than 6	12	23.07%
3 to 6	10	19.23%
3 or fewer	30	57.69%
TOTAL	52	100%
Industry	N	%
Logistics	14	26.92%
Electronics & IT Hardware	8	15.38%
Clothing, Footwear, & Fashion	6	11.54%
Informatics' Industries	6	9.61%
Metals & Minerals	5	9.61%
Food Industries	5	9.61%
Building sector	2	3.85%
Printing house	2	3.85%
Air Lines	2	3.85%
Other	2	3.85%
TOTAL	52	100%

APPENDIX B

QUESTIONNAIRE

VARIABLE - ASYMMETRY - ITEMS
(Is the next act considered a sign of differences in behaviours of the supply chain partners? Completely agree =7; Completely disagree = 1)

Communication between supply chain partners has improved in the same level as their capacity and level of technology (Aa1_10)
Relations between supply chain partners are periodically and jointly evaluated (Aa1_13)
All partners easy accept leadership position one of them as the best policy for their interests (Aa1_14)
The level of commitment is always similar in the relationships between supply chain partners (Aa1_15)
The operational information on costs and profits is frequently shared with our partners (Aa1_2)

VARIABLE - TRUST - ITEMS

(Is the next act considered a sign of confidence in the honesty of members of the supply? Chain? Completely agree =7; Completely disagree = 1)

Our reputation on the market has improved since our integration in the supply chain (TRa1_4)
We believe that the level of knowledge shared with the supply chain partners is very high (TRa1_5)
Supply chain members should known cost and profit levels of the other partners (TRa1_7)
Problems are solved of mutual agreement by holding meetings (TRa1_8)
The opinions and suggestions of our supply chain partners are believed to be honest and true (TRa1_9)

VARIABLE - COLLABORATION - ITEMS

(Is the next act considered a sign of responsibility to carry out joint actions for overall supply? Chain and management members? Completely agree =7; Completely disagree = 1)

The collaboration is the basis of setting common goals (CLa2_1)
The SCM process means giving up our particular interests in benefits of those of the whole chain (CLa2_2)
The training process was carried out in common with the supply chain partners (CLa2_5)
Problems and opportunities related to costs and profits are analyzed jointly with our partners (CLa2_6)
Forecast information is frequently shared with our partners (CLa2_8)

VARIABLE - INTEGRATION - ITEMS

(Has supply chain integration improved your firm's performance in the following areas? - Completely agree =7; completely disagree = 1)

The integration with the supply chain partners has been positive for our profitability (ITa2_9)
Our integration can be viewed as critical for our profit margin (ITa5_1)
The company future projects will depend on the level of our partners integration (ITa5_3)
The level of integration with our supply chain partners meets our expectations (ITa5_7)
In our supply chain we have eliminated the functional and structural barriers among partners (ITa7_1)

VARIABLE - INNOVATION - ITEMS

(Has supply chain innovation as a platform for diversification of communications systems? - Completely agree =7; completely disagree = 1)

CAD/CAM/CAE is used for joint projects (INa7_2)
All supply chain partners are connected via EDI (Electronic Data Interchange) (INa7_3)
The trace and track system is open to all supply chain partners (INa7_5)
All partners are interested in product and process innovation (INa7_8)
Our investment in R&D have been reduced after becoming a supply chain partner (INa9_14)

VARIABLE - COST - ITEMS

(To what extent have supply chain success factors in asymmetric environments affected your firm's costs in the following areas? – We are lower = 1; we are higher than last year = 7)

Inventory costs reduction (CRa9-1)
Production costs reduction (CRa9_2)
Purchasing costs reduction (CRa9_3)

VARIABLE - PERFORMANCE - ITEMS

(To what extent have supply chain success factors in asymmetric environments affected your firm's performance in the following areas? – We are lower = 1; we are higher than last year = 7)

Growth and diversification of incomes (PFa9_4)
Profits (PFa9_5)
Productivity improvement (PFa9_6)
Market participation (PFa9_7)
Customer satisfaction (PFa9_8)

APPENDIX C

CROSS LOADINGS
POLAND

	ASSYM	COLL	COSTRED	INNOV	INTEG	RESULTS	TRUST
Aa1_10	0.811	0.479	-0.009	0.219	0.463	0.068	0.493
Aa1_13	0.444	0.395	0.062	0.303	0.382	0.261	0.739
Aa1_14	0.527	0.374	0.135	0.269	0.729	0.252	0.495
Aa1_15	0.450	0.499	0.111	0.370	0.521	0.019	0.640
Aa1_02	0.271	0.215	-0.036	0.097	0.481	0.143	0.390
TRa1_4	0.454	0.516	0.111	0.334	0.378	0.257	0.794
TRa1_5	0.195	0.289	0.097	0.169	0.478	0.030	0.490
TRa1_7	0.513	0.363	0.043	0.323	0.503	0.080	0.347
TRa1_8	0.651	0.323	-0.058	0.289	0.386	0.077	0.425
TRa1_9	0.720	0.342	-0.045	-0.006	0.286	0.053	0.364
CLa2_1	0.468	0.714	0.166	0.448	0.516	0.126	0.493
CLa2_2	0.697	0.607	-0.140	0.244	0.400	-0.035	0.385
CLa2_5	0.463	0.724	-0.063	0.276	0.416	-0.137	0.407
CLa2_6	0.441	0.734	0.015	0.522	0.419	-0.025	0.397
CLa2_8	0.488	0.825	0.066	0.521	0.476	0.042	0.550
ITa2_9	0.578	0.838	0.004	0.595	0.513	-0.114	0.584
ITa5_1	0.296	0.361	0.067	0.320	0.636	0.142	0.352
ITa5_3	0.436	0.510	-0.074	0.423	0.679	-0.229	0.382
ITa5_7	0.381	0.517	0.213	0.447	0.700	0.013	0.338
ITa7_1	0.101	0.141	-0.171	0.512	0.251	-0.098	0.168
INa7_2	0.301	0.382	0.028	0.748	0.239	0.027	0.287
INa7_3	0.155	0.359	0.080	0.654	0.234	0.088	0.373
INa7_5	0.239	0.533	0.136	0.723	0.412	0.169	0.366
INa7_8	0.189	0.485	-0.023	0.547	0.456	-0.121	0.215
INa9_14	-0.005	0.167	0.586	0.172	0.241	0.364	0.156
CRa9_1	-0.208	-0.101	0.459	-0.055	0.030	0.726	-0.001
CRa9_2	-0.213	-0.267	0.528	-0.094	-0.011	0.728	-0.035
CRa9_3	-0.022	0.106	0.828	0.059	0.069	0.499	0.185
PFa9_4	-0.153	-0.089	0.677	-0.089	-0.040	0.392	0.068
PFa9_5	-0.013	-0.030	0.746	0.043	0.066	0.539	-0.004
PFa9_6	0.191	0.078	0.532	0.208	0.141	0.761	0.293
PFa9_7	0.151	0.022	0.341	-0.004	0.001	0.695	0.178
PFa9_8	0.283	0.140	0.371	0.106	0.214	0.647	0.391

CROSS LOADINGS
SPAIN

	ASSYM	COLL	COSTRED	INNOV	INTEG	RESULTS	TRUST
Aa1_10	0.811	0.682	0.161	0.388	0.574	0.228	0.518
Aa1_13	0.738	0.626	0.316	0.334	0.438	0.385	0.857
Aa1_14	0.592	0.436	0.326	0.376	0.706	0.351	0.571
Aa1_15	0.617	0.389	0.392	0.409	0.629	0.392	0.695
Aa1_02	0.522	0.382	0.146	0.321	0.735	0.214	0.461
TRa1_4	0.602	0.483	0.228	0.250	0.468	0.321	0.768
TRa1_5	0.585	0.491	0.242	0.193	0.594	0.305	0.853
TRa1_7	0.716	0.548	0.373	0.438	0.616	0.330	0.559
TRa1_8	0.851	0.641	0.412	0.401	0.555	0.471	0.768
TRa1_9	0.734	0.388	0.363	0.304	0.563	0.390	0.666
CLa2_1	0.349	0.417	0.159	0.202	0.368	0.161	0.203
CLa2_2	0.579	0.625	0.105	0.154	0.316	0.125	0.445
CLa2_5	0.288	0.415	0.095	0.314	0.330	0.135	0.051
CLa2_6	0.674	0.882	0.275	0.434	0.550	0.155	0.529
CLa2_8	0.526	0.745	0.387	0.379	0.406	0.411	0.639
ITa2_9	0.692	0.849	0.241	0.396	0.601	0.343	0.538
ITa5_1	0.525	0.504	0.599	0.458	0.803	0.578	0.527
ITa5_3	0.493	0.630	0.295	0.410	0.654	0.298	0.497
ITa5_7	0.169	0.240	0.133	0.150	0.440	0.133	-0.101
ITa7_1	0.092	0.175	0.459	0.566	0.166	0.355	0.097
INa7_2	0.376	0.418	0.512	0.768	0.470	0.584	0.170
INa7_3	0.442	0.420	0.526	0.867	0.402	0.507	0.325
INa7_5	0.436	0.425	0.455	0.776	0.497	0.463	0.408
INa7_8	0.211	0.304	0.429	0.569	0.287	0.388	0.341
INa9_14	0.366	0.275	0.440	0.468	0.256	0.672	0.282
CRa9_1	0.348	0.230	0.535	0.602	0.444	0.716	0.214
CRa9_2	0.329	0.290	0.657	0.497	0.303	0.645	0.105
CRa9_3	0.167	0.192	0.517	0.394	0.336	0.658	0.332
PFa9_4	0.100	0.188	0.466	0.206	0.202	0.193	0.303
PFa9_5	0.272	0.259	0.541	0.358	0.249	0.235	0.440
PFa9_6	0.253	0.182	0.837	0.503	0.443	0.562	0.304
PFa9_7	0.345	0.371	0.644	0.514	0.453	0.796	0.393
PFa9_8	0.325	0.218	0.444	0.302	0.278	0.723	0.376

An Innovation in Healthcare Delivery: Hospital at Home

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A healthcare delivery system which partially substitutes for inpatient hospital care – hospital at home – is becoming widespread worldwide, but has only recently gained a foothold in the United States. An overview of this system is presented along with results of outcomes research associated with it. The technologies driving this system are discussed, and a rationale for its more widespread adoption in the U.S. is made.

INTRODUCTION

In some countries, demand for hospital beds exceeds the supply, a situation which is expected to become more widespread as the population ages (Foubister, 2011). Although the U.S. did have excess hospital beds in the past (e.g., see Bazzoli, et al., 2006), this no longer appears to be the case (Evans, 2012; NJDH, 2008; Queram, 2012), with some researchers predicting the need for an 18-28% increase in the number of U.S. hospital beds (Shactman, et al., 2003). One approach to effectively increase the number of available hospital beds is to decrease the time for which patients are admitted to the hospital. Making this approach difficult is the fact that patients may still require hospital-level care.

One of the fastest-growing alternatives to what has traditionally been referred to as “inpatient” medical care is the provision of hospital-level care to patients in their homes (Jacobs, 2001; Papazissis, 2004; Shepperd, 2009). The most prevalent form of acute home medical care is “hospital at home” (HaH), the provision of medical services normally associated with acute inpatient hospital care, but provided instead in a patient’s home (Leff, 2009). Although criteria vary, HaH involve the provision of care in the patient's home which:

(1) eliminates or reduces an inpatient hospital stay;
(2) is similar to care normally provided in a hospital;
(3) is clinically appropriate; and
(4) is not provided by usual community-based services (Lemelin, et al., 2007).

HaH models have been accepted in many countries around the world, particularly in the United Kingdom, Europe, and the Middle East (Kane, 2007). In some countries, the HaH model even predominates; e.g., nearly all the hospitals in Victoria, Australia have HaH programs (Montalto, 2010) and in Canada, the Ontario Ministry of Health and Long Term Care has recommended that HaH be launched throughout the entire province (Sinha, 2012). Currently only a few such programs exist in the U.S. (Graham, 2012a; Senior, 2012), but the number seems to be growing, with successful HaH programs established at, for example, Johns Hopkins Bayville Medical Center in Baltimore, MD (Carter, 2012), Presbyterian Healthcare Services in Albuquerque, NM (Kuehn, 2012; McCain, 2012), Mercy Health, a not-for-profit health system in Cincinnati, Ohio (Landro, 2013), and several VA hospitals (Graham, 2012a).

Literature reviews and meta-analyses have categorized HaH programs as either admission avoidance or early discharge (Shepperd, 2009). Admission avoidance HaH programs are designed to avoid hospital admission altogether (e.g., by treating infectious diseases and thromboembolic disorders). Early discharge HaH programs discharge the patient from the hospital directly to home to receive medical care that would be traditionally have been delivered in hospital following an initial surgical or acute medical treatment delivered in hospital.

In the United States, it would seem that managed care would embrace either or both of these models of HaH, if only for financial reasons. Admission avoidance HaH programs would certainly be profitable for managed care organizations (MCOs), as they eliminate hospital stays, and hospitals are the most costly venue where patients can receive care. Early discharge HaH programs would also be financially advantageous for MCOs because by definition they decrease the number of costly hospital days incurred by patients. MCOs must understand, however, that these cost savings are achieved only if the care provided by HaH programs is appropriate. For example, Medicare now will withhold payment for patients re-admitted to the hospital sooner than predicted, at least those having certain conditions (Landro, 2013).

Patients treated in admission avoidance HaH generally have these characteristics (Leff, et al., 1997):

(1) the condition occurs with some frequency and accounts for a significant number of hospitalizations;
(2) the diagnosis is relatively uncomplicated and can therefore be made rapidly without substantial consultation or invasive testing; and
(3) the treatment is well defined and can be delivered in a feasible, safe, and efficient manner at home.

The early discharge group includes chronically ill patients diagnosed with multiple illnesses and needing acute episodic care. The majority of these patients are elderly and disabled, although pediatric patients with chronic illnesses may also be recipients of ongoing acute episodic care from HaH services. These patients often have difficulties with mobility and other activities of daily living, and have difficulty in maintaining their households. Many have care givers who provide assistance, and patients' use of existing community services is common. This group includes people of varying ages who, following an acute event, require short-term, intensive medical treatment such as intravenous antibiotics, intensive rehabilitation or post-surgical care, but do not need long-term nursing and maintenance care (Siu, et al., 2009). Another component of this early discharge HaH group includes patients who may have less common diagnoses that are usually treated by sub-specialty inpatient units (Shepperd, et al., 2009b).

Another classification system for HaH is based on whether services are delivered predominately by specialists or subspecialists. Although this approach is sometimes useful for understanding the differences in case mix between these types of HaH programs, significant crossover exists between specialist and subspecialist HaH programs, as some types of clinical care may be provided by specialists in one HaH setting and by sub-specialists in another. The majority of HaH programs are the specialist type, providing care across a range of common conditions. In the specialist approach, a different group of staff usually provide in-home care compared with staff providing acute hospital care. In the sub-specialist model, care is provided by a more narrow clinical team having knowledge and skills relating to a specific condition, with the same doctors, nurses and allied health professionals usually involved in providing care in both hospital and at-home settings (Shepperd, 2005). Subspecialty HaH care usually requires a sufficient caseload of patients being available for the HaH service to be feasible and efficient (Chevillotte, 2008).

BASIS OF CARE

Substantial variation exists between HaH programs with regard to the illnesses treated, the acuity of patients involved, the source of admission, the composition of the treatment teams, whether the patient was at one time considered to be an inpatient before being treated in HaH, and the amount of physician and nursing care coverage provided. HaH requires substantial medical technology in provision of care, and also requires special understanding of how pharmaceuticals are used at home.

The most common conditions and treatments delivered by HaH include treatment of infections, particularly genitourinary tract, respiratory tract, skin, joint and soft tissue infections; anticoagulant therapy; post-surgical acute care; congestive heart failure treatment; treatment of chronic obstructive pulmonary disease (COPD); and rehabilitation services (Shepperd, 2009**)**.

Eligibility criteria for access to HaH services reflect the differences between patient groups. HaH programs are appropriate only for patients with a definitive diagnosis, as outlined in the eligibility criteria set by each service. For example, to be enrolled in the HAH program at Presbyterian Healthcare Services in Albuquerque, NM, patients must meet the following criteria (Foubister, 2011):

(1) be diagnosed with chronic heart failure, chronic obstructive pulmonary disease, community-acquired pneumonia, cellulitis, complex urinary tract infection, dehydration, nausea and vomiting, deep vein thrombosis, or stable pulmonary embolism;
(2) be sick enough to require hospitalization but not so sick as to be admitted to the hospital's intensive care unit;
(3) live close enough to the three participating Albuquerque hospitals to be able to return to one of the hospital's emergency department within 30 minutes, if needed;
(4) be covered by Presbyterian Health Plan or chooses to pay for the Hospital at Home service, as the program is not covered by other payers.

Depending on the hospital, criteria may encompass not only the health care needs of patient groups, but may also reflect patient characteristics, patterns of care, case-mix, and staff composition (Leff and Montalto, 2004). The majority of programs operate as hospital outreach programs, although they may also be operated by community health services, or hospital-based teams working in conjunction with community-based services (Shepperd, et al., 2009).

Staffing

The composition of staff providing HaH services differs among countries, service providers, and HaH models. Nurses are often responsible for the majority of care, causing some to believe that HAH is simply home health care under a new name (Maguire, 2012). However, the nurses associated with many HAH programs are specialist and/or HaH-dedicated nurses (Askim, et al., 2004; Caplan, et al., 2006; Harris, et al., 2005). The most commonly provided allied health services are physiotherapy and occupational therapy (Sheppherd, et al. (2009b).

The physician's role in HaH varies widely. Early discharge models generally involve physician supervision from a distance, while admission avoidance models report varied doctor roles. In some models, community-based general practitioners are available for home visits to patients. In other models, doctors make rounds at the patient's home every day based upon the premise that HaH patients require the same care that they would have received inside the hospital (Cheng, Montalto, and Leff, 2009). The appropriate clinical skills and competencies required to deliver HaH are dependent on the service delivery model of the program and the range of clinical duties associated with provision of care. The medical skills for delivering HaH care are found across clinical specialties.

General practice, emergency medicine, geriatrics and general hospital medicine in particular are clinical areas with direct relevance to HaH. However, in addition to these skills areas, the ability to adapt a clinical unit model to a patient's home is required. This aspect of HaH care is novel and therefore suggests that HaH may be an emerging clinical specialty in its own right. The need for further development of the "specialty" has been recognized (Montalto, 2002), but there appears to be no published literature regarding specialty training for HaH, or the existence of separate colleges (or faculties within colleges) to support continuing professional development of medical practitioners in this field.

The nursing skills for delivering HaH care are drawn from a range of specialty areas. The benefits of nursing specialization in HaH have been acknowledged, however formal development of the nursing specialty of HaH across countries has been variable (Duke and Street, 2003).

Referrals

By definition, HaH units depend upon referrals to obtain patients, normally from medical practitioners who make key decisions regarding care requirements. Many programs spend significant time and effort in generating these referrals, employing staff to identify patients, providing information sessions and written material for staff, and using personal contacts to increase and maintain referrals. In most admission avoidance HaH programs, patient referral is from a hospital's Emergency Department, but patients are also referred from medical practitioners in the community. Early discharge HaH referrals are predominantly from inpatient situations (Shepperd, 2009).

SERVICE PROFILES AND OUTCOMES

Post-surgical

Post-surgical care has been studied within HaH service delivery models for a range of surgical conditions. Much post-surgical care has been demonstrated to be safe and effective, with a strong patient preference for receipt of services at home (Moeller, 2012).

Orthopedic surgery in particular is an area of extensive study of HaH models of post-surgical care. Studies have demonstrated both clinical and financial advantages to orthopedic after-care in home settings, provided that post-operative pain can be adequately controlled (Russon, et al., 2009; Stevens, et al., 2004). Models are predominantly led by nurses, but often also involve allied health practitioners. Patients are admitted to HaH service for orthopedic post-operative care through early hospital discharge with generally low readmission rates. In one study, mean length of hospital stay post hip or knee replacement was reduced by over 42% for total hip replacement and by 33% by provision of post-operative care at home. Complication rates were equivalent and there were no statistically significant differences in clinical outcomes between inpatient and HaH. Patients in this study rated HaH care highly (Russon, et al., 2009).

There is also evidence that delivery of post-operative HaH care following other types of surgery - including surgery for hernia and varicose veins (Adler, et al., 1977; Ruckley, et al., 1978), coronary artery bypass grafting (Booth, et al., 2004), and cataract surgery (Willins, Grant and Kearns, 1999) - is safe and effective.

Internal Medicine

Numerous examples exist in the literature where subspecialty HaH models have been used to provide medical services successfully to patients. Some of the more common subspecialty models described are for the treatment of diabetes, respiratory failure and complex chronic illnesses. Looking at diabetes treatment in the home, HaH units can effectively commence insulin for patients with type 1 and type 2 diabetes (Monalto, et al., 2001). Subspecialty HaH services, usually provided by endocrinologists and diabetes educators, can manage 43% of newly diagnosed children wholly at home, and reduce the number and duration of hospital admissions without deterioration in blood glucose control (McEvilly and Kirk (2005). Diabetic infections normally treated in inpatient settings are also able to be successfully treated using a HaH model of care (Esposito, et al., 2008).

HAH services have also been demonstrated to be safe and effective for service delivery across a range of other general internal medicine conditions including:

(1) provision of parenteral nutrition, blood transfusion, and for percutaneous endoscopic gastrostomy management in health systems where these services are usually provided in acute in-patient settings (Dollard and Dunn, 2004);
(2) the management of acute and chronic pediatric respiratory, gastro-intestinal and infectious diseases (Bagust, et al., 2002; Sartain, et al., 2002);
(3) complex wound care and ulcer management (Montalto, Portelli, and Collopy, 1999; Genoud and Weller, 2008); and
(4) provision of acute anticoagulation treatment, including for deep vein thrombosis (Smith, et al., 2002).

Home management of deep vein thrombosis with low molecular weight heparin has been shown to be safe and effective. Patients treated at home with low molecular weight heparin have a lower recurrence of venous thromboembolism, less major bleeding and fewer deaths than those managed as inpatients. Home-based care is also more cost-effective than inpatient care (Othieno, Affan, and Okpo, 2007). Patients with sub-massive pulmonary embolism (PE) can be treated as outpatients or in the home. Good outcomes have been demonstrated for outpatient treatment of patients with PE (Ong, et al., 2005).

HaH have been shown to be safe and effective for cardiac treatment and rehabilitation across a range of countries and for a number of cardiac conditions (Dalal, et al., 2010; Taylor, et al., 2007). Home-based intravenous diuretic and inotropic therapies can be safely and effectively delivered via HaH services to treat acute and severe decompensated heart failure. Patients can remain at home to receive appropriate medical care, reducing inpatient hospitalizations (Madigan, 2008; Ryder, et al., 2008). Home-based versus hospital-based cardiac rehabilitation after acute myocardial infarction (MI) achieves equivalent outcomes at up to 9 months post MI (Taylor, et al., 2007).

HaH programs have been applied quite successfully to the treatment of acute exacerbations of COPD, a major source of inpatient admissions for many hospitals world-wide (Davison, et al., 2006: Utens, et al., 2012). There is some evidence of reduced mortality rates (Jeppesen, et al., 2012) and reduced length of stay (Aimonino, 2008) for COPD treated via HaH instead of traditional inpatient hospitalization. No significant difference in hospital readmissions between patients treated in HaH and traditional inpatient care have been demonstrated. However, patients predominately prefer HaH to inpatient care (Graham, 2012c; Ram, et al., 2009).

TECHNOLOGICAL DRIVERS OF HaH

Extensive use of new and existing technology facilitates new approaches to the provision of care to patients and to promote information sharing among caregivers (Hernandez, et al. 2009). The use of technologies to support HaH is a subject of significant interest and importance, especially as a meta-analysis of five clinical trials including 844 patients demonstrated that the provision of hospital care at home and traditional hospitalization resulted in similar outcomes at lower cost for HaH (Shepperd, et al., 2009a).

Telemedicine is the use of technology to provide healthcare over a distance. Tele-homecare, a form of telemedicine based in the patient's home, is the use of communication and other technologies that enables the interaction of voice, video, and/or health-related data (Seigler, et al., 2007). Many HaH services worldwide have adopted tele-homecare to assist with the care of the growing population of chronically ill adults and children (Bowles and Baugh, 2007).

Potential benefits of telemedicine include:

(1) improved access to information (Skinner, Maley, and Norman, 2006);
(2) improved communication between/among health professionals (Clemensen and Larsen, 2007);
(3) the capacity to provide care in settings not previously possible (Zhang, He, and Wei, 2008; Coons and Carpenedo, 2007);
(4) home monitoring and treatment (Wilson, et al., 2000); and
(5) decreased health-care costs (Anonymous, 2007).

Information for Patients and the General Population

Electronically stored information is often accessed by patients through the Internet. The Internet provides patients with information about health and disease, thus providing opportunities which can assist patients in their better understanding the nature of their disease, its treatment and prognosis, as well as information regarding diagnostic investigations and the effect that various treatments might have (Skinner, Maley and Norman, 2006). In fact, 61% of Americans have accessed the Internet seeking health information (Fox and Jones, 2009). Patient knowledge and understanding regarding of their conditions is essential to improving patient self-management. Provision of information via telemedicine is an effective strategy for delivery of health education to people from culturally and linguistically diverse backgrounds and for a range of chronic conditions (Gottlieb and Blum, 2006).

Improved Communication between Health Professionals

Communication between health care providers, particularly between community and hospital-based providers, has traditionally been paper-based. Newer technologies are increasingly available to enable patient health records to be more accessible to both providers and patients, and to enable sharing of electronic information among providers. Electronic health records (EHRs) can avoid duplication of expensive and unnecessary investigations, improve clinical decision making, and reduce the time associated with preparation, dissemination, and reading of paper-based communication between providers (Zhang, He, and Wei, 2008).

Provision of Care Not Previously Deliverable

Telemedicine has been shown to enhance service delivery in small, rural communities as an alternative to travel, and to address local deficiencies in specialist care. Mistiaen and Poot (2006) have discussed how advances in communications technology have increased the range of methods and speed by which health-care professionals and patients can communicate, providing faster access to specialist clinical support, convenience, and time savings for patients, improved equity of access to care between and within regions, especially where specialized services are centralized in urban centers.

Telemedicine has also been demonstrated to improve verbal interactions in dermatology, ophthalmology and wound care; i.e. via videoconferencing for diagnosis and treatment (AHQR, 2006). Home-based telemedicine interventions in chronic diseases enhance communication between patients and providers and facilitates closer monitoring of overall health when conducted in settings with specialized equipment and dedicated staff (Artinian, et al., 2007; Green, et al., 2008).

Enhanced video-conferencing networks within health services, desktop video-conferencing using products such as Skype® and WebEx®, and the use of electronic professional networking (e.g. Sharepoint®, Wikis, web logs [Blogs] and chat rooms) may be useful to enhance communication between health professionals, to develop evidence-based policies, protocols and guidelines within organizations, for the remote attendance of the health professional at case conferences, multidisciplinary team meetings, treatment planning sessions and to facilitate electronic consultations between patients and health care providers, often reducing the need for transport and/or accommodation for the patient (Chen, et al., 2006).

Clinical communication has also successfully been enhanced by the use of Email. A trial of email communication between patient and/or care giver and a specialist burn team investigated whether patients could capture suitable clinical images with a digital camera and add the necessary text information to enable a burn team to provide appropriate follow-up care. Participants did not require intensive training or support, low-resolution images were deemed sufficient for clinical diagnosis, and clinical information was generally accurate enough to enable appropriate diagnoses to be made (Johansen, et al., 2004).

The systematic application of technologies such as these to HaH service delivery could address some of the professional isolation and supervision concerns regarding staffing of HaH services. However, before this occurs, rigorous pilot testing and evaluation of these technologies in the HaH setting will be required.

Home Monitoring and Treatment

The miniaturization and simplification of other technologies formerly available only in a hospital also facilitate HaH. Recent advances in home intravenous infusion technologies allow infusions to be delivered in a highly controlled manner with programmable pumps, also known as “smart pumps,” which have dose-checking capability, predefined dose limits, bolus delivery options, and the ability to recognize programming errors before medication delivery. Pumps have evolved from large stationary units to tiny portable devices that can even be carried on a belt clip (Wilson and Sullivan, 2004). Ventilator technology has become increasingly portable with some being the size of laptop computers, weighing as little as 5 kilograms (Lewarski and Gay, 2007). Oxygen therapy has evolved from reliance on large bulky cylinders to safer, more compact, lightweight oxygen concentrators, devices providing oxygen therapy to a patients at minimally to substantially higher concentrations than available in ambient air. Most concentrators can run on either DC or AC current (Gallegos and Shigeoka, 2006). Advances in radiology also enable provision of home-based diagnostic services. Simple home-based x-rays are now available and are comparable in quality to traditional hospital x-rays (Bankhead, 2011). Handheld ultrasound devices have been developed, which enable investigations such as echocardiograms and diagnosis of deep vein thrombosis or pleural, peritoneal, or pericardial fluid in HaH (Galasko, Lahiri, and Senior, 2003; Lapostolle, et al., 2006)

Continuous monitoring of patients in certain diagnostic categories, outside hospital environments, has been the subject of a number of studies. Some researchers have found little or no differences in outcomes between HaH and traditional hospitalization (Ho, et al., 2007; Malasanos, 2006; Shepperd, et al., 2008). The application of technologies to the home monitoring and treatment of patients with a wide range of diseases could be applied to the delivery of HaH services, and may improve the quality, safety and efficiency of services. Families rated such services highly and valued the early reunification of the family at home through the use of the technology (Young, et al., 2006). Patient satisfaction has also been shown to be higher with HaH (Shepperd, et al., 2009b), and stress on family members to be lower (Leff, et al., 2008).

Improved care and reduced health services costs associated with delivering care for heart failure via specialist nurse-led telephone calls have been demonstrated. Hospital readmissions, cumulative readmission costs, and length of stay were reduced for patient treated via HaH services (Benatar, et al., 2003). Home-monitoring for heart failure is technologically advanced. It includes the use of peripheral devices for measuring and automatically transmitting electrocardiograms (EKGs), blood pressure, heart rate, medication use, bodyweight and symptoms (Oeff, 2010). Patients whose heart failure was once thought to be too complex to be managed outside the hospital are now being treated via HaH: 75 pounds of fluid were drained from one heart failure patient in a HaH program in 3 weeks (Maguire, 2012).

Clinical trials of specialist nurse-led telephone-based care for provision of HaH care for patients with acute exacerbations of COPD have also been done. HaH patients demonstrated better knowledge of their disease, better self-management and higher patient satisfaction where achieved using this method to augment face-to-face service delivery (Hernandez, et al., 2003).

Home monitoring has been demonstrated to improve the mental and physical needs of the elderly and chronically ill, and assist them to remain out of hospitals and other institutions. This can improve their quality of life, as well as reduce the costs of prolonged stays in hospital care facilities (Gottlieb and Blum, 2006). Home monitoring systems to monitor physiological variables, such as EKGs and blood pressure (Bratan, Jones and Clarke, 2004; Frantz, 2003; Guillén, et al., 2002), and video-links (Autio, et al., 2007) that allow health professionals and relatives to interact more frequently with the elderly are now available.

Trials of the suitability of Internet-based video-phones for use in the homes of families in need of pediatric palliative care services have been undertaken. The technology is a feasible alternative to face-to-face service provision, but during the trial several technical problems were encountered, potentially affecting the reliability of the approach (Bensink, et al., 2004). A videophone system was used to link cancer patients undergoing chemotherapy in HaH with care providers in the healthcare facility. An important outcome was an improvement in quality of life due to use of the videophone service (Laila, et al., 2008).

Home dialysis is available for patients with chronic renal failure who are able to self-care, however, there are few reports on the use of telemedicine in dialysis treatment in general, and in home dialysis specifically (Rygh, et al., 2012). This is likely at least partially because the U. S. Centers for Medicare and Medicaid in 2007 re-affirmed its position that dialysis centers were not approved sites for telemedicine (Whitten and Buis, 2008). Whitten and Buis (2008) have demonstrated that patient's confidence and ability to home dialyze can be improved through the use of video-links to supervise the dialysis procedures. Dialysis centers can use telemedicine to monitor patients, observe technique periodically, and provide care to patients in case of complications.

Telemedicine and associated technology (telephone, video and internet) have been shown to improve the delivery of HaH care for ulcers (Clemensen and Larsen, 2007) and chronic wounds (Dobke, et al., 2008). They have also been successfully used to monitor patients acutely ill with infections, such as community-acquired pneumonia, skin and soft tissue infections, and urinary tract infections, resulting in better satisfactory outcomes, cost savings and more rapid convalescence of the patient (Eron, et al., 2004a, b; Chambers, et al., 2002).

Several types of specialty care, including dermatology, ophthalmology, wound care, and treatment of infections, have been studied in small clinical trials and appear to allow accurate diagnosis and management through both real-time interactions and "store-and-forward" applications, in which clinical data, including video images, are collected and stored for later review by a clinician (Moreno-Ramirez , et al., 2007).

A systematic review of 40 articles was conducted evaluating telehealth technology where peripheral medical devices were used to deliver home care for adult patients with chronic illnesses. Patients and providers were accepting of the technology and it appears to have positive effects on chronic illness outcomes such as self-management, re-hospitalisations, and length of stay (Bowles and Baugh, 2007).

Significant questions exist about where telemedicine should be used and whether or not its use is supported by high-quality evidence (Hersch, et al., 2007). Early studies (e.g., Hailey, Ohinmaa and Roine 2004; Hersch, et al., 2001) questioned the quality of both study design and sample size. A recent systematic review of 65 studies of home telemonitoring for 4 chronic diseases (pulmonary conditions, diabetes, hypertension, and cardiovascular diseases) suggests that while telemonitoring is a promising patient management approach, further studies are needed to examine its clinical effects and cost effectiveness (Paré, Jaana and Sicotte, 2007). However, since only a single study since 2008 (Bolton, et al., 2011) was found to express concerns regarding the quality of evidence on which conclusions about telemedicine are based, the debate about evidence quality of studies of telemedicine seem to have been largely resolved.

Reduced Health-Care Costs

Tele-homecare can contribute to a reduction in healthcare costs (Butcher 2012; Klein, 2011; Shepperd, et al., 2009a). However, to date cost evaluations have predominately involved limited numbers of patients with varying kinds of tele-homecare interventions for a limited number and variety of few chronic illnesses. Further research is indicated to clarify how the best indications for tele-homecare and how its benefits can best be maximized (Bowles and Baugh, 2007).

HaH had been shown to provide significant cost savings over traditional in-patient hospitalization, given the right circumstances. A Swedish study of HaH services provided to infants and children with stable acute illness using mobile video-link units found HaH to be 30% cheaper than conventional hospital care with higher and patient satisfaction. At the conclusion of the Swedish study the program was deemed to be so successful that it became a permanent part of children's care provided at the Karolinska Hospital (Bergius, et al., 2001). More recently, a study of telemedicine in India found that costs of dialysis treatment there could be decreased 90% if telemedicine was employed instead of traditional hemodialysis (Govindarajan, 2012).

The success of the HaH program at Alburquerque, NM-based Presbyterian Healthcare Services has recently been documented, in both the academic literature (Carter, 2012; Cryer, et al., 2013; Foubister, 2011; Kuehn, 2012) and lay press (Graham, 2012c; Landro, 2013). In addition to a 19% cost savings achieved, HaH patients demonstrated comparable or in some cases better, outcomes as similar inpatients and this was in addition to higher patient satisfaction levels. The study found no statistically significant difference in 30-day readmission rates between the two groups. Ninety three percent of patients eligible to do so chose to receive care through the HaH program.

FUTURE CONSIDERATIONS

What does the future hold for technology and HaH? It's extremely difficult to predict technological advances and their potential applications, but some possibilities seem likely. The trend toward increased miniaturization should certainly be expected to continue and the results should continue to affect the development of HaH. Nanotechnology has existed in healthcare for years (Feder, 2004), but is still being touted as a potential major platform for healthcare technology development (Prasad, 2012). In fact, despite the catastrophic consequences of the 2008-2009 meltdown of capital markets, the global market for nanomedicine is expected to grow from $63.8 billion in 2006 to $130.9 billion in 2016, a compound annual growth rate of 12.5% (BCC Research, 2012). On a somewhat more macro scale, but still looking at technology's size decreasing, an electrical engineering research group at Washington State University – Pullman envisions "a lightweight, simple package caregivers can purchase from Home Depot or Lowe's" that could be used to conduct hospital-level monitoring at home (Otto, 2011, no page). Tablet computers, which are easy to use and completely portable, will help with both technology adoption and use of EHRs (Sandomirsky, 2012), and the trend of decreasing size of computers will almost certainly continue, perhaps eventually even reaching the quantum molecular level (Lambert, nd).

Healthcare data storage "in the cloud" looks promising, especially for larger healthcare organizations (Sharpe, 2012), although certainly hurdles to its adoption do exist. Data storage "in the cloud" would allow institutions to pay for only what they actually use, instead of having to purchase expensive and potentially quickly obsolete systems; it would also make the sharing of EHRs much more feasible (Danios, 2011). However, significant legal hurdles in some countries (e.g., requirements associated with the Health Insurance Portability and Accountability Act [HIPAA] of 1996 in the U.S.) would have to be overcome (Denzell, 2012). Regardless of the legal issues involved, improved data storage and access should help HaH (and other health care institutions) improve patient care as co-ordination of that care becomes more and more important.

An important and growing trend is the use of electronic communication technology for patients. Mobile technology allows patients to access healthcare information easily on the Internet, while mobile applications ("apps") allow the monitoring of personal health conditions such as diabetes via smartphones (Nayyar, 2011). Although few such healthcare apps yet exist, their development is expected to accelerate in the future (Singer, 2011).

CONCLUSIONS

Internationally, one of the fastest-growing approaches to what has been known for years as "inpatient" care is the provision of acute care to patients in their homes. Acute home care medical models have been accepted in many countries around the world, and their acceptance U.S. is limited, but growing. The increasing pressure in the U.S. to lower health care costs and improve the quality of medical care could lead to the widespread acceptance of such programs in the U. S. as the model become better understood, provided that an appropriate reimbursement system can be developed.

That technology has been and will continue to be an important driver of developments in healthcare generally and HaH in particularly seems indisputable. Will HaH be a panacea which "cures" the problem of consistent increases in the percentage healthcare costs represent in U.S. GDP? Certainly not! Is the more widespread adoption of the HaH model something which can affect the magnitude of the increase in costs attributable to hospitals in the U.S.? Almost certainly yes! Under the condition that the HaH model is limited to patients whose medical conditions are such that appropriate care can be delivered safely, effectively, and at less costs than traditional in-patient care, the more widespread adoption of this model of care delivery in the U.S. is indicated.

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Factors Associated with LPHA Participation in Core Public Health Functions Related to Obesity Prevention, 2008

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Obesity is the leading public health problem in the U.S. Local public health agencies (LPHAs) are tasked with prevention on the community level. Conceptual frameworks link infrastructure to delivery of care. Infrastructure is measured by structural factors associated with LPHAs and environmental factors linked to obesity prevention; process is measured by participation in core public health factors associated with obesity prevention. Community-based interventions for obesity prevention have not been successful. If process is ineffective, structural and/or environmental factors need to be examined. This study examines what structural factors influence LPHA participation in obesity prevention.

INTRODUCTION

The Institute of Medicine issued a report in 1988 stating that public health as an organization is in a state of chaos and made many recommendations for improvement (Institute of Medicine, 2003). On the community level, local public health agencies (LPHAs) play a critical role in maintaining and improving health. LPHAs have been called "where the rubber meets the road" in terms of providing services to the public (Turnock, 2007) and, according to an Institute of Medicine report, "the backbone of the public health system (Novick, Morrow, & Mays, 2008). Another definition states that LPHAs "…are responsible for creating and maintaining conditions that keep people healthy" (Novick, Morrow, & Mays, 2008.

Obesity is one of the nation's biggest threats to the health of the U.S. population (Jia & Lubetkin, 2010) and is a leading public health problem in the U.S. (Ogden et al., 2006; Anderson et al., 2005). Obesity affects all ages, ethnic groups, regions of the county and levels of socioeconomic status (Jeffery

& Utter, 2003). Compared to whites, non-Hispanic blacks, Mexican Americans, Native Americans and Puerto Ricans have higher levels of obesity, and Asian Americans exhibit lower levels of obesity (Denney et al., 2004). Rural populations, compared to urban populations, have higher obesity prevalence (Patterson et al., 2004; Jackson et al., 2005). Rates of childhood obesity have doubled or tripled, depending on the age group considered, from the late 1970s to the late 2000s (Ogden et al., 2006; Centers for Disease Control and Prevention [CDC], 2011. In addition, the government pays for approximately 50 percent of the total annual medical expenditures linked to obesity through Medicaid and Medicare beneficiaries (Finklestein, Ruhn, & Kosa, 2005). Based on the magnitude of what the government pays for care for the obese population, it has a vested interest in solving the obesity epidemic.

The relationship between LPHAs and obesity prevention is not well chronicled. Since the 1970s, a number of community-based obesity prevention programs have been developed and implemented, such as the Minnesota Heart Health Program (MHHP), the Pound of Prevention program, and the Stanford Three-Community program. Each of these programs differed in duration and types of informational and/or educational components included. None of the programs had long-term benefit and only MHHP and the Stanford-Three Community program had short-term reduction of specific risk factors with certain populations studied (Jeffery et al., 1995; Schmitz & Jeffery, 2000). These large-scale studies, although significant, did not specify the driver of planning, design or implementation of the programs.

With success of community-based obesity prevention efforts not being realized, evaluation efforts are critical to understanding why. The success of prevention programs relies on the "capacity of a community to engage in prevention efforts (Ataguba & Mooney, 2011). With the government's economic interest in the obesity rates and the health of the population, prevention and control becomes critically important. Current research about obesity prevention programs and interventions focuses on health education and behavior change, but does not include the examination of system in which the problem can be solved (Abrams & Brownell, 2009).

The role of the public health system in combating obesity has recently been published (Zhang et al, 2010; Erwin et al., 2011; Luo et al., 2013; Stanatakis et al., 2012; Pomeranz, 2011; Chen et al., 2012). As obesity is a very serious health problem in the U.S. (Jia & Lubetkin, 2010; Ogden et al., 2006; Anderson et al., 2005), this proposed study will reveal what infrastructural factors influence participation in the 10 essential public health services for obesity prevention and might identify areas where organizational infrastructure and environmental factors support or hinder the delivery of obesity prevention services.

METHODS

An analysis of data from the 2008 National Association of City and County Health Officials (NACCHO) Profile surveys was used to assess the degree to which LPHAs are engaging in each of the 10 essential public health activities with regard to obesity prevention and the extent to which infrastructure is associated with this engagement. The 2008 data set consists of responses about infrastructure, activities and obesity prevention for a large proportion of the 3200 local public health agencies in the U.S. The NACCHO data sets were created from electronic surveys of local public health agencies with consistent follow-up with paper surveys to increase response rate. The 2008 data set was selected based on the questions asked pertaining to specific infrastructure and activities performed, and this data was collected before the significant economic downturn that started in the late 2000s.

Conceptual Framework

Handler, Issel and Turnock created a conceptual framework for measuring the performance of the public health system in 2001 Handler, Issel, & Turnock, 2001) and was later modified by Mays et al in 2009 (Mays et al., 2009). The framework is based on the Donabedian model, which states that effective structure yields effective process, which, in turn, yields positive outcomes (Donabedian, 1988). Although the Donabedian model was designed to assess quality of provider care, the model can apply to other health service providers, including public health agencies. In the Donabedian model, "structure" pertains to the "attributes of the setting in which care occurs (Donabedian, 1988). Rather than structure referring to such things as facilities, equipment, and finances of a hospital or medical office, structure in a public health setting would include governing body, funding, and workforce (executive and staff) characteristics. Process in the Donabedian model refers to "what is actually done in giving and receiving care" (Donabedian, 1988). In a public health context, process would apply to the specific public health services and how those services are delivered to the public or the community. Such services include obesity and other prevention services, which could be delivered, for example, through partnerships or directly. Outcomes signify the "effects of care on the health status of patients and populations" (Donabedian, 1988). In terms of public health, the definition of outcomes is no different. For the purposes of this study, outcomes are not examined. When applying the Donabedian framework to obesity prevention services as "process," understanding the influence of "structure" on process becomes important as it can show the influence of structural elements have on service delivery.

Independent Variables

Structural elements of LPHAs include jurisdiction boundaries (county, other), jurisdiction size/ population size served, staffing levels, presence of community-based partnerships, funding levels, statutory authority (state, local), governance (governed by local board of health or not), leadership (operationally defined as top agency executive with terminal degree). In addition, the Handler et al and Mays et al. frameworks also show that environmental factors influence the structural factors. Environmental factors pertaining to obesity prevention used in this study include state BMI (body mass index) level and presence of CDC funding designated for obesity prevention. Environmental factors were obtained from the CDC (CDC, 2010).

Dependent Variables

The key variables in this proposed study are the 10 essential public health services performed in relation to obesity prevention in 2008. Data was coded to create dichotomous variables that show the presence of each of the 10 essential public health services for obesity prevention. A list of the 10 essential public health functions is included in Table 1.

In addition, a new variable was created that shows what core public health function --assessment, policy development and assurance – was performed based on the number of related essential public health activities the LPHA reported doing.

Statistical analysis performed included percentages, t test, ANOVA and linear regression as well as tests for model specification issues, such as multicollinearity and heteroscedasticity. No bias issues were revealed pertaining to multicollinearity and heteroscedastcity. All analysis was done using weighted data in SAS 9.3.

RESULTS

Frequency of LPHAs Performing Essential Public Health Activities Related to Obesity Prevention

Table 1 provides descriptive information about the percentage of LPHAs involved in each of the 10 essential public health functions as they relate to obesity programs as reported in 2008. More than two thirds of all responding LPHAs (68.83%) are involved in informing and educating people about obesity. More than half report working in mobilizing community partnerships (50.77%), linking people to needed services/outreach and referral (52.15%) and monitoring health status (50.04%). More than two fifths of LPHAs (41.89%) report diagnosing and investigating obesity-related problems in the community. Just under one-third (32.74%) of LPHAs report being engaged in policy making and planning and assuring staff (32.03%) are competent to provide services. Slightly less than one quarter of LPHAs (23.34%) are evaluating program effectiveness. Less than one fifth of LPHAs are involved in research pertaining to obesity programs (13.64%) and only a small percentage of LPHAs are enforcing laws related to obesity (3.75%). Nearly one-fifth (18.91%) of LPHAs report there is no activity in obesity prevention.

Variables were then collapsed to reflect LPHA involvement in the core essential public health functions of assessment, policy development and assurance related to obesity prevention. Assessment is comprised of essential public health activity 1 (monitoring health problems) and 2 (diagnosing and investigating health problems. Policy development is based on essential public health functions 3 through 5 (informing, educating and empowering people; mobilizing community partnerships and developing policies and plans). Assurance includes essential public health functions 6 through 9 (enforcing laws and regulations, linking people to needed personal health services, assuring a competent workforce, evaluating effectiveness). Research, essential public health function 10, can occur in any of the essential public health functions. Without ability to link this essential public health function to a specific core activity in the data set, this variable was not included in the categorization and subsequent analysis.

Table 2 shows the percentage of LPHAs who participate in each core public health function as related to obesity prevention.

Bivariate Analysis Showing Factors Influencing Level of Participation in Assessment Activities Performed by LPHAs for Obesity Programs

Bivariate analysis was performed to provide more detail about the extent of the relationship between LPHA infrastructure and environmental factors and level of participation in core public health activities pertaining to obesity prevention. Tables 3-5 provide the results of bivariate analysis that shows level of involvement by each LPHA characteristic. Bivariate analysis was performed using t tests and ANOVA, depending on the number of levels of the independent variable of concern.

Assessment

Staffing levels, presence of partnerships with community-based organizations, staffing levels and state BMI levels were associated with level of participation in assessment-related activities pertaining to obesity prevention. There were positive associations between levels of involvement in assessment activities and staffing levels, presence of partnerships with community-based organizations, funding levels, and state BMI levels.

From using the mean square, there was a significant difference in participation in assessment activities between LPHAs with staffing levels of less than 6.5 FTE and LPHAs with staffing levels with more than 47 FTE. There was no significant difference between LPHAs that have staffing levels of 6.5 and 16.5 FTE and LPHAs with staffing levels greater than 47 FTE. Also, there was no significant difference between LPHAs that have staffing levels between 16.5 and 47 FTE and LPHAs with staffing levels greater than 47 FTE.

There was also a significant difference (data not shown) in participation in assessment activities between LPHAs with staffing levels of less than 6.5 FTE and LPHAs that have between 16.5 and 47 FTE. Also, there was a significant difference in involvement in assessment activities between LPHAs with less than 6.5 FTE and LPHAs that have between 6.5 and 16.5 FTE. Comparing LPHAs with staff levels between 6.5 and 16.5 FTE, there was no significant difference with LPHAs with either of the larger categories of FTE ranges.

There was a significant difference in participation in assessment activities based on state BMI rate. Participation in assessment-related activities related to obesity prevention increases as state BMI levels increase from normal weight to overweight and from normal weight to obese. There was no significant different in participation in assessment activities between LPHAs with state BMI rate in the overweight category and the obese category.

Participation in assessment-related activities increases as funding levels increase from less than $500,000 annually to amounts greater than $2.5 million. Participation in assessment-related activities increases as funding levels increase from less than $500,000 annually to amounts between $500,000 and $2.5 million. There was no significant difference in participation in assessment activities between LPHAs with funding levels between 500,000 and 2.5 million and LPHAs with funding levels greater than 2.5 million (data not shown).

Policy Development

Population size served, staffing levels, presence of partnerships with community-based organizations, staffing levels and state BMI level are associated with participation in policy development activities pertaining to obesity prevention. There were positive associations between levels of involvement in policy development activities and jurisdiction size, staffing levels, presence of partnerships with community-based organizations, funding levels, and state BMI levels.

From using the mean square, participation in policy development activities related to obesity prevention was statistically higher in LPHAs serving more than 250,000 people than in LPHAs serving less than 50,000 people and LPHAs serving between 50,000 and 250,000 people. Also (data not shown), there was a difference in involvement in policy development activities between LPHAs serving between 50,000 and 250,000 people and LPHAs serving more than 250,000 people.

Comparing to staffing levels of more than 47 FTE, there were significant differences in participation in policy development activities related to obesity prevention between every level of staffing.

There were also (data now shown) significant differences in involvement in policy development activities between LPHAs with less than 6.5 FTE and LPHAs with 6.5 to 16.5 FTE, between 6.5 and 16.5 FTE and 16.5 and 47.5 FTE. There were no significant differences between LPHAs with 16.5 to 47 FTE and FTE with more than 47 FTE.

Participation in policy development-related activities related to obesity prevention increase as state BMI levels move from normal weight to overweight, but there was no change in involvement in policy development activities as state BMI levels move from overweight to obese.

There were significant differences in involvement in policy-making activities related to obesity prevention based on funding levels. Compared to the annual funding levels less than $500,000, LPHAs with funding levels between $500,000 and $2.5 million have greater participation in policy development, as does LPHAs with more than $2.5 million in annual funding. Further analysis (data not shown) revealed that involvement in policy development-related activities increases as funding increases; there were significant differences between each individual level.

Assurance

The bivariate analysis pertaining to the core public health function of assurance reveals that staffing levels, presence of partnerships with community-based organizations, and funding levels were associated with participation in assurance-related activities pertaining to obesity prevention.

Compared to LPHAs with more than 47 FTE, there were significant differences in participation in assurance activities for LPHAs with fewer than 6.5 FTE and for LPHAs with between 16.5 and 47 FTE. There was no significant difference in participation in assurance activities between LPHAs with more than 47 FTE and LPHAs with 6.5 to 16.5 FTE.

Additionally (data not shown), there were significant differences in involvement in assurance activities between LPHAs with fewer than 6.5 FTE and LPHAs with 6.5 to 16.5 FTE. There were also significant differences in participation in assurance activities between LPHAs with fewer than 6.5 FTE and LPHAs with 16.5 to 47 FTE. There was no significant difference in involvement between LPHAs with 6.5 and 16.5 FTE and LPHAs with 16.5 to 47 FTE.

Compared to LPHAs with less than $500,000 in annual funding, there was no significant difference in involvement in assurance activities for LPHAs with funding levels between $500,000 and $2.5 million. However, there was a significant difference in involvement in assurance activities between LPHAs with less than $500,000 in annual funding and LPHAs with more than $2.5 million in annual funding.

Regarding state BMI levels, compared to LPHAs in states with an average BMI of 30 or greater, there were no significant differences in involvement in assurance activities with LPHAs in states with a normal BMI rate (less than 25) and in states with an overweight BMI rate (between 25 and less than 30).

There were significant differences in participation in assurance activities between LPHAs with less than $500,000 in annual funding and LPHAs with more than $2.5 million in annual funding.

Infrastructure and Environmental Factors Associated with LPHA Involvement in Core Public Health Functions Pertaining to Obesity Prevention, 2008

Tables 6-8 shows the structural and environmental factors associated with LPHA participation in each core public health functions related to obesity prevention.

Assessment

Staffing levels was the only significant factor influencing LPHA participation in assessment activities related to obesity prevention, and there was a positive association between the two. Presence of partnerships with community-based organizations and state BMI level approached statistical significance.

Policy Development

Staffing levels and presence of a partnership with a community-based organization are positively associated with LPHA participation in policy development activities related to obesity prevention.

Assurance

No structural or environmental factors in the analysis were found to be significantly related to level of assurance activities.

DISCUSSION

The discussion is divided into three sections: 1) discussion of overall findings, 2) discussion of the proportion of LPHAs engaged in essential public health services related to obesity prevention, and 3) discussion of the factors associated with LPHA participation in core public health functions related to obesity prevention

Overall Findings

The results shown thus far speak to the effect that a single dimension of the Mays et al. and Handler et al. conceptual frameworks has on the strategic decision to participate in the core public health functions related to obesity prevention. Governmental public health agency characteristics play a small role in involvement in core public health functions. The addition of obesity-related environmental factors – state BMI level and presence of CDC funding allocated to states for obesity prevention – also play a small role in participation in the core public health functions. Presence of CDC funding does not play such a role.

Proportion of LPHAs Engaged in Essential Public Health Services Related to Obesity Prevention

Also, as seen in Table 1, only four essential public health activities (monitoring health status, informing and educating about health issues, mobilizing community partnerships, and linking people to needed personal health services) are performed by more than half of LPHAs, and no essential public health function is performed by more than 75 percent of LPHAs. With the results of this study showing that characteristics of LPHAs have little influence on participation in core public health functions related to obesity prevention, then there must be other factors that are influencing at involvement in obesity prevention at the community level. Based on the Mays et al. and Handler et al. conceptual models, it would be logical to hypothesize that the community partners are providing greater support to prevent obesity than are LPHAs.

Factors Associated with Core Public Health Functions Related to Obesity Prevention

From examining the results of the regression model with the results of the bivariate analysis, staffing level is the only significant variable associated with participation in assessment and policy development activities. The significance of staffing levels speaks to the importance of the role of people in battling obesity. LPHA staff size is meager compared to other organizations with a similar range of activities (Novick, Morrow, & Mays, 2008). Having the staff to deliver assessment and policy development activities, holding all other variables constant, plays a key role. As stated earlier, people/staff perform the actual delivery of the intervention. People/staff also educate the public about health issues, create and maintain partnerships, and develop policies and plans to support health efforts. The positive association between staffing levels and the core functions of assessment and policy development shows that the more people, the more participation in those activities. As funding was not significant, this finding suggests that staff used in obesity prevention activities may be funded to perform different work, but are doing obesity prevention in addition to their main job. Staff doing such work may be working with community-based partnerships to implement obesity prevention.

No structural or environmental factors studied are associated with LPHA participation in assurance. This finding suggests, based on the conceptual model of the public health system, that the role of governmental public health agency does not play a significant role in the strategic decisions made and that the factors associated with participation in assurance activities comes from macro factors outside of LPHA characteristics and/or from the population and environment. This study examined two population and environmental factors – state BMI level and presence of CDC funding designated to states for use for obesity prevention – and neither factor was found significant. State BMI level only showed influence in the bivariate model.

Presence of community-based partnerships was only significant in the model pertaining to policy development activities related to obesity prevention, holding all else constant. The Institute of Medicine states that the magnitude of the obesity problem in the U.S. is bigger than what government public health agencies can handle and recommends that public health engage in partnerships (Institute of Medicine, 2003). The results of this study show that presence of community-based partnerships is associated with assessment activities related to obesity prevention in the bivariate model and with policy development activities in the bivariate and full models. In short, taking other variables into account, presence of community-based partnership is an important factor linked to participation in policy development and that community-based partnerships increase, so does participation in policy development activities. There is no such increase with assessment and assurance activities related to obesity prevention.

Participation in obesity prevention at the local level is certainly important, but challenging in light of competing priorities and diminishing revenues. With LPHAs being all things prevention to all people, securing community-based resources specializing in obesity prevention-related activities may be part of the most pragmatic and sustainable way to solve the obesity problem in the U.S.

Limitations

This study has a number of limitations. The 2008 NACCHO profile survey has not been tested for validity and reliability. Questions in the survey have weak face validity as wording used is subject to interpretation. For example, questions in the survey that pertain to obesity are not specific to either adult obesity, childhood obesity or both. In this study, obesity is assumed to pertain to adult only.

Proxy variables were created for some of the variables in the conceptual framework; use of different proxies could yield different results. For example, the presence of a terminal degree held by the agency’s top executive was used as a proxy for leadership. In addition, results may differ based on variables used. For example, there are other ways that partnerships with community-based organizations could have been analyzed; use of other variables also could yield different results. The percentage of federal funding above the national average received by LPHAs was used to represent funding mix in the conceptual framework; better proxy variables could be used and, thus, could have different results.

Conclusion

This study examined the relationship between various structural and environmental factors of LPHAs and participation in essential and core public health functions related to obesity prevention. The results showed that only a few factors within the conceptual frameworks developed by Mays et al. and Handler et al. have a significant influence on LPHA participation in obesity prevention.

The Institute of Medicine states that the most promising course for obesity prevention is population-based and multi-level, addresses environmental and policy change, and requires the assistance of multiple sources (Kumanyika et al & Institute of Medicine (U.S.), 2010). Thomas Freiden makes recommendations similar to the Institute of Medicine's course of action (Frieden, 2010). As IOM and Frieden recommendations were published after 2008, future research needs to determine if LPHAs are adhering to these important recommendations.

Future research needs to examine these significant variables, particularly community-based partnerships, in more depth. Although this study shows an association between presence of community-based partnerships and policy development, the extent, nature, role, and effectiveness of the partnership in combating obesity prevention on the community level are not known.

In addition, future research should also involve understanding what activities are being performed within key essential public health functions and identify what factors influence the participation in key essential public health functions related to obesity prevention.

Of additional interest related to this study includes analysis pertaining to differences between rural and urban LPHAs as well as differences between LPHAs in the 16 Southern Obesity states and those LPHAs not in the 16 Southern Obesity states. As the obesity prevention problem continues to worsen, and while the community-based partnerships used in obesity prevention are not well understood, additional research is needed to understand the strength, roles and responsibilities, successes and obstacles faced by the LPHA/community-based organization partnership, especially in light of the strong IOM recommendation given to community-based partnerships. Understanding what may make partnerships successful could help create an obesity prevention model for LPHAs.

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APPENDIX OF TABLES

Table 1 - Proportion of LPHAs performing 10 essential public health activities -- obesity programs (2008) n=386

10 Essential Public Health Service	**(%)***
1. Monitor health status to identify and solve community health problems.	50.04
2. Diagnose and investigate health problems and hazards in the community.	41.89
3. Inform, educate, and empower people about health issues.	68.83
4. Mobilize community partnerships and action to identify and solve health problems.	50.77
5. Develop policies and plans that support individual and community health efforts.	32.74
6. Enforce laws and regulations that protect health and ensure safety.	3.75
7. Link people to needed personal health services and assure the provision of health care when otherwise unavailable.	52.15
8. Assure competent public and personal health care workforce.	32.03
9. Evaluate effectiveness, accessibility, and quality of personal and population-based health services.	23.34
10. Research for new insights and innovative solutions to health problems.	13.64
NA	18.91

* Weighted estimate.

Table 2 - Proportion of LPHAs performing core public health activities -- obesity programs (2008) n=386	
Core Public Health Service	**(%)***
Assessment	57.89
Policy development	73.39
Assurance	60.72

* Weighted estimate.

Table 3 –Factors Influencing Participation in Assessment Activities Performed by LPHAs for Obesity Programs, 2008		
Variable	**Assessment Mean Score**	**p value***
Overall Adjusted Average	.46	
Jurisdiction boundaries		
County	.96	Ref
Other	.86	.2944
Jurisdiction size		
< 50,000	.84	.0591
50,000 -- 250,000	1.02	.5637
250,000+	1.09	Ref
Staffing levels (in terms of full-time equivalents [FTE]**		
<=6.5	.52	**<.0001**
6.5 -- 16.5	1.02	.4300
16.5 -- 47	1.13	.9619
47+	1.12	Ref
Community-based Organizations (CBOs)**		
Presence of partnerships with CBOs	.97	**<.0001**
No presence of partnerships with CBOs	.32	Ref
Funding levels**		
< 500,000	.62	**<.0001**
500,000 -- 2.5 million	1.05	**.0001**
2.5 million+	1.10	**Ref**
Funding mix (federal in relation to ntl ave.)		
Funding level > national average	1.12	.1510
Funding level < national average	.96	Ref
Statutory authority		
State control	.92	.9720
Local control	.92	Ref
Governing structure		
Presence of local board of health	.92	.8323
No local board of health	.89	Ref
Leadership		
Top LPHA executive earned terminal degree	.79	.0872
Top LPHA executive does not possess terminal degree	.95	Ref
State BMI level**		
<25	.58	**.0123**
25-29	1.03	.5569
30+	.96	Ref
CDC Funds		
State received funding designated for obesity prevention	.92	.9494
State did not receive funding designated for ob. prevention	.92	Ref

*Bolded p values levels indicate statistical significance between identified level and referent level.
** Indicate variables that are statistically significant.

Table 4 - Factors Influencing Participation in Policy Development Activities Performed by LPHAs for Obesity Programs, 2008		
Variable	**Policy Dev. Mean Score**	**p value***
Overall Adjusted Average	.41	
Jurisdiction boundaries		
County	1.27	Ref
Other	1.21	.5162
Jurisdiction size**		
< 50,000	1.10	**<.0001**
50,000 -- 250,000	1.41	**<.0148**
250,000+	1.66	ref
Staffing levels**		
<=6.5	.82	**<.0001**
6.5 -- 16.5	1.29	**.0107**
16.5 -- 47	1.38	**.0475**
47+	1.59	ref
Community-based Organizations (CBOs)**		
Presence of partnerships with CBOs	1.30	**.0001**
No presence of partnerships with CBOs	.62	Ref
Funding levels**		
< 500,000	1.01	Ref
500,000 -- 2.5 million	1.28	**.0387**
2.5 million+	1.52	**<.0001**
Funding mix (federal in relation to ntl ave.)		
Funding level > national average	1.45	.1743
Funding level < national average	1.30	Ref
Statutory authority		
State control	1.21	.1149
Local control	1.30	Ref
Governing structure		
Presence of local board of health	1.19	.0926
No local board of health	1.38	Ref
Leadership		
Top LPHA executive earned terminal degree	1.21	.7120
Top LPHA executive does not possess terminal degree	1.25	Ref
State BMI level**		
<25	1.00	**.0600**
25-29	1.31	.9969
30+	1.31	Ref
CDC Funds		
State received funding designated for obesity prevention	1.16	.1335
State did not receive funding design. for obesity prev.	1.30	Ref

*Bolded p values levels indicate statistical significance between identified level and referent level.
** Indicate variables that are statistically significant.

Table 5 - Factors Influencing Participation in Assurance Activities Performed by LPHAs for Obesity Programs, 2008		
Variable	**Assurance Mean Score**	**P value***
Overall Adjusted Average	.24	
Jurisdiction boundaries		
County	.95	ref
Other	.92	.7501
Jurisdiction size		
< 50,000	.90	**.0319**
50,000 -- 250,000	.95	.0896
250,000+	1.17	Ref
Staffing levels**		
<=6.5	.64	**<.0001**
6.5 -- 16.5	1.13	.8948
16.5 – 47	.91	**.0463**
47+	1.17	Ref
Community-based Organizations (CBOs)**		
Presence of partnerships with CBOs	.97	**.0035**
No presence of partnerships with CBOs	.48	Ref
Funding levels**		
< 500,000	.76	Ref
500,000 -- 2.5 million	.98	.0910
2.5 million+	1.11	**.0047**
Funding mix (federal in relation to ntl ave.)		
Funding level > national average	.98	.7477
Funding level < national average	1.02	Ref
Statutory authority		
State control	.93	.6097
Local control	.99	Ref
Governing structure		
Presence of local board of health	.88	.1074
No local board of health	1.06	Ref
Leadership		
Top LPHA executive earned terminal degree	.86	.4056
Top LPHA executive does not possess terminal degree	.96	Ref
State BMI level		
<25	.80	.6954
25-29	1.01	.2735
30+	.86	Ref
CDC Funds		
State received funding designated for obesity prevention	.94	.9572
State did not receive funding design. for obesity prev.	.94	Ref

*Bolded p values levels indicate statistical significance between identified level and referent level.
** Indicate variables that are statistically significant.

Table 6 –Factors Influencing Participation in Assessment Activities Performed by LPHAs for Obesity Programs, 2008 (n=216)			
Variable*	**Coefficient**	**St. Error**	**P value**
Jurisdiction boundaries	-.0896	.1289	.4877
Jurisdiction size	-.1169	.1209	.3350
Staffing levels	.2642	.1289	**.0417**
Intergovernmental relationships (Community-based Organizations)	.4950	.2564	.0549
Funding levels	-.0630	.1832	.7314
Funding mix (federal > ntl ave.)	.0564	.1226	.6462
Statutory authority	.1884	.2328	.4191
Governing structure	.1937	.18459	.2961
Leadership	-.2045	.1510	.1771
State BMI rate	.2209	.1265	.0822
CDC funding	.0632	.1252	.6142
*Intercept	-.3008	.4147	.4691
N	216		
Prob >F	.0148		
R^2	.0979		

*Bolded p values levels of variables that are statistically significant

Table 7– Factors Influencing Participation in Policy Development Activities Performed by LPHAs for Obesity Programs, 2008 (n=216)			
Variable*	**Coefficient**	**St. Error**	**P value**
Jurisdiction boundaries	-.0510	.1217	.6759
Jurisdiction size	-.0453	.1090	.6784
Staffing levels	.2629	.1276	**.0406**
Intergovernmental relationships (Community-based Organizations)	.6849	.2849	**.0171**
Funding levels	-.1231	.1867	.5104
Funding mix (federal > ntl ave.)	.0494	.1167	.6722
Statutory authority	-.0486	.2222	.8271
Governing structure	.0490	.1710	.7747
Leadership	.0794	.1154	.4919
State BMI rate	.1027	.1286	.4255
CDC funding	-.0677	.1282	.5981
*Intercept	.2952	.4248	.4878
N	216		
Prob >F	.0121		
R^2	.1136		

*Bolded p values levels of variables that are statistically significant

Table 8 – Factors Influencing Participation in Assurance Performed by LPHAs for Obesity Programs, 2008 (n=216)			
Variable*	**Coefficient**	**St. Error**	**P value**
Jurisdiction boundaries	-.1413	.1376	.3054
Jurisdiction size	-.1615	.1201	.1802
Staffing levels	.0987	.1318	.4548
Intergovernmental relationships (Community-based Organizations)	.3636	.2476	.1547
Funding levels	.1129	.1921	.5573
Funding mix (federal > ntl ave.)	-.0869	.1288	.5010
Statutory authority	.0492	.2616	.8511
Governing structure	-.0210	.1793	.9071
Leadership	-.0245	.1728	.8874
State BMI rate	.0761	.1469	.6050
CDC funding	.0416	.1363	.7604
*Intercept	.4400	.4404	.3189
N	216		
Prob >F	.5171		
R^2	.0443		

The Ethics of Record Destruction

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This paper attempts to analyze an unnamed charity's journey for increased transparency and governance. Several potential misstep scenarios are discussed. The names of parties and organizations involved have been changed. The literature review overviews complexities associated with accounting/ organizational performance situations and introduce an ethical model for possible outcome determination and other discussion based considerations. This study articulates the evolution of ethics at both the unnamed charity and with its external and internal stakeholders and presents questions regarding the contextual approach of management, external auditors, and internal parties.

INTRODUCTION

In the introduction to an undisclosed charity's 2011 Stewardship Report, a statement is made that "We believe the public is entitled to know how we are performing against our stated business goals and evidence-based mission outcomes and how we hold ourselves accountable" (Undisclosed Charity, n.d.). At a time when donors and volunteers have more charitable choices than ever, the Charity's management and staff understand the obligation of the organization to demonstrate overall effectiveness to those key stakeholder groups.

While performing audit procedures over trust agreements associated with the 2011 annual external audit of the undisclosed charity's financial statements, it was noted that trust accounting statements that management did not specifically use in the annual financial statement presentation were shredded. This paper provides additional context and addresses the specific question "is it ethical to shred accounting statements not specifically used by management for annual financial statement presentation?"

"Some donors enter into trust or other arrangements under which nonprofit entities receive benefits that are shared with other beneficiaries" (American Institute of Certified Public Accountants, 2011). There are several stakeholders associated with these trust arrangements, including the nonprofit management, the nonprofit board, individual donors and their family members or other beneficiaries, and in some cases, based on individual state law, any interested individual in the state. "The assets that fund such arrangements are sometimes managed by the charity, sometimes by a third-party trustee" (Gross, M., McCarthy, J., Shelmon, N., 2005). Accounting statements are prepared by the third-party trustees' and include details to support any activity that has occurred for the trust assets, such as payments to beneficiaries, administrative fees, and investment activity. The activity detailed in these accounting statements can be used for both financial and fiduciary or operational purposes.

The question is an ethical dilemma primarily because uncertainty exists whether one can consider financial performance separate from how corporations communicate with different stakeholder groups and an imbalance may exist in the various stakeholder groups' expectations for proper stewardship of donations. An argument can be made that any accounting information not specifically used to determine financial performance as represented in the financial statements can be handled in any manner the organization management deems adequate. A counterargument exists that financial information obtained in the current year which could be used by a stakeholder group to assess financial or even operational performance should be maintained.

The question is also an ethical dilemma because "legitimacy theory and corporate social responsibility studies have found evidence to support the notion that firms use communication or accounting to defend or maintain legitimacy in the eyes of society and/or their stakeholders (Tilt, 2009). The ethical question considered in this paper arose because the Chief Financial Officer directed accounting staff to shred all account statements not specifically used by management in their calculation of the year-end trust receivable balance in order to avoid spending resources answering questions regarding activity that occurred prior to year-end but not used by management in the year-end financial statement balance (undisclosed VP, personal communication, July 14, 2011).

The area being audited was the year-end receivable estimate calculated by management for the Charity's beneficial interest in trust assets. The AICPA Audit and Accounting Guide for Non-Profit Organizations defines a beneficial interest in section 6:01 as "a benefit or advantage shared with other beneficiaries as a result of a trust or other arrangement" (American Institute of Certified Public Accountants, 2011). When the undisclosed Charity is named in a trust agreement, a receivable is recorded based on the fair market valuation. Determination of fair value is governed by Statement of Financial Accounting Standards (SFAS) No. 157, Fair Value Measurements, (now codified in Topic 820 of the Financial Accounting Standards Board Accounting Standards Codification (ASC)). The context and terminology mentioned in this paper and key stakeholder interests should be considered when addressing the question "is it ethical to shred accounting statements not specifically used by management in the year-end audit?"

LITERATURE REVIEW

The process of keeping records involves consideration of legal requirements, ethical standards, and other external constraints, as well as the demands of the particular professional context. The professional context for the ethical question under review is a large nonprofit charitable organization. In June 2005, the Panel on the Nonprofit Sector issued a final report to Congress titled *Strengthening transparency, governance, and accountability of charitable organizations*. The Panel on the Nonprofit Sector is an independent effort by charities and foundations to ensure that the nonprofit community remains a vibrant and healthy part of American society. "Formed by Independent Sector in October 2004 at the encouragement of the U.S. Senate Finance Committee, the Panel prepared a series of recommendations for Congress to improve the oversight and governance of charitable organizations and for individual nonprofit organizations to ensure high standards of ethics and accountability" (nonprofitpanel.org, 2012).

The "heart of the report is its recommendations, which offer a comprehensive approach to improving transparency and governance" (Independent Sector, 2005). The report unfortunately does not address record keeping recommendations for accounting statements not directly pertinent to the year-end financial statements. Additionally, the only nonprofit governance and/or accounting legislation that has occurred since the 2005 report is the revised requirements for Form 990 which will be discussed later in this chapter.

In his book titled *Transparency* Warren Bennis states, "when we speak of transparency and creating a culture of candor, we are really talking about the free flow of information within an organization and between the organization and its many stakeholders, including the public" (Bennis, 2008). Bushman, Piotroski and Smith (2004) investigated corporate transparency and found reasons for how and why corporate transparency varies. They concluded that consideration of both governance transparency and financial transparency required distinction between mandatory and voluntary corporate reporting.

This paper is grounded using literature review of the ethical branch of stakeholder theory, which extends the argument of legitimacy and suggests that an organization is the vehicle for coordinating all stakeholder interests and management has a fiduciary relationship to all stakeholders (Tilt, 2009). O'Dwyer views accounting as "a mechanism aimed at enhancing corporate accountability and transparency to a wide range of external stakeholders, while addressing the social, environmental and ethical concerns and values of individuals upon whom a business has a non-economic impact" (2006, p. 220). Striking a balance in the delivery of stakeholder expectations associated with various legitimacy demands highlights the context for the particular ethical question raised in this paper.

The International Accounting Standards Board "IASB" established a framework for the *Preparation of Financial Statements*. The board stated "the objective of financial statements is to provide information about the financial position, performance and changes in financial position of an enterprise that is useful to a wide range of users in making economic decisions" (ISAC, 1989, para. 12). The framework acknowledged that "financial statements do not provide all the information that users may need to make economic decisions since they largely portray the financial effects of past events and do not necessarily provide non-financial information" (ISAC, 1989, para. 13).

In addition to reviewing the accounting standards relating to this transaction, it is also important to review the document retention requirements. The Internal Revenue Service "IRS" recently revised the requirements for Form 990. This was the first revision since 1979. The IRS explained the reasons for the change in a background paper, stating "The Form 990 is a public document that is the key transparency tool relied on by the public, state regulators, the media, researchers, and policymakers to obtain information about the tax exempt sector and individual organizations" (Internal Revenue Service, n.d.). Among the new questions on the Form 990 is the inquiry "Does the organization have written policies on conflicts of interest, whistleblowers, and document retention?" (Green, J., Moskowitz, S., Bakale, A., 2009). The new questions are raised not only to address if the policies are in place but also "how the policies are enforced" (Green, J., Moskowitz, S., Bakale, A., 2009).

Section 404 of the Sarbanes-Oxley Act resulted in the creation of new document retention requirements. A publically traded company "must maintain evidential matter, including documentation, to provide reasonable support for the assessment of internal control" (Sneller, L., Langendijk, H., 2007). Compliance with section 404 of the Sarbanes-Oxley Act is not a current legal requirement of nonprofit entities. However, stakeholder expectations dictate voluntary compliance. Finally, the "Code of Professional Conduct of the American Institute of Certified Public Accountants consists of two sections: 1) the Principles and 2) the Rules (Duska, R., Duska, B., 2003). Compliance with the Code of Professional Conduct, as with all standards in an open society, depends primarily on members' understanding and voluntary actions.

This chapter reviewed the academic and professional literature related to the ethics associated with record destruction. The literature demonstrates there is guidance but often not a mandatory compliance requirement for retention of information not specifically used in the audited financial statements. The literature explores the concept of management of stakeholder interests in the nonprofit sector, which support the origins of the ethical dilemma raised in the first chapter. The next chapter will introduce an ethical model by which the question of shredding documents given the aforementioned criteria can be further analyzed.

ETHICAL DECISION METHODOLOGY

In order to address the ethical dilemma outlined in the introduction of this paper, review and consideration of business and accounting ethical decision methodologies was necessary. The context and terminology previously outlined in this paper and the balance of multiple nonprofit stakeholder interests requires application of an ethical decision making methodology to arrive at an acceptable answer when addressing the question for an accounting practitioner perspective of "is it ethical to shred accounting statements not specifically used by management in the year-end audit?"

The American Accounting Association "AAA" adopted an ethical decision model. The AAA model comes from a report written by Langenderfer and Rockness in 1990 (Langenderfer, H., Rockness, J., 1990). In the report, they suggest a logical, seven-step process for decision making, which takes ethical issues into account.

The AAA model includes the following steps: Step 1. *Determine the facts.* This step means that when the decision making process begins there must be no ambiguity about what is under consideration. Step 2. *Define the ethical issues.* This involves examining the facts of the case and asking what ethical issues are at stake. Step 3. *Identify major principles, rules and values*. This step involves placing the decision in social, ethical and professional behavioral context. In the last context, professional code of ethics is considered. Step 4. *Specify the alternatives*. Step 5. *Compare values and alternatives and see if the decision is clear*. When step 5 is complete, it should be possible to see which options align with the norms and which do not. Step 6. *Assess the consequences*, and Step 7. *Make the decision*. (Langenderfer, H., Rockness, J., 1990).

Cavanagh *et al.* (1981) identified three basic ethical philosophies, each of which represents a unique component of ethical situations faced by individuals in business organizations. The first is utilitarianism. The second philosophy is individual rights. This philosophy focuses on protecting individual rights such as the right to be informed or the right to due process, etc. The third ethical philosophy is justice. Such an ethical system stresses social justice and the opportunity for all individuals to pursue happiness.

Fritzsche and Becker (1984) concluded that most individuals allow one of these philosophies to dominate their ethical decisions with the utilitarian philosophy being dominant among business managers. Accountants frequently invoke cost/benefit methods into their discussions and evaluations of various topics. "Utilitarianism rests on the idea that the ends justify the means, but this is logically equivalent to the notion that one should engage in projects in which the benefits exceed the costs" (Armstrong, M., Ketz, E., Owsen, D., 2003). A limitation of utilitarianism is that while it seeks to bring about the greatest good for the greatest number, it has no way of protecting minority interests. As such, utilitarianism will be incorporated in the model as a potential reason for the management action that led to the ethical dilemma, but will not be the sole consideration for answering the ethical question.

Deontology focuses on moral obligation, rights and duties, and examines the act itself, not just the consequences of the act. "Deontological concepts are often applied in accounting courses, because emphasis in accounting is on principles (e.g. matching and revenue recognition) and ''the right way to do it,'' regardless of the consequences" (Armstrong, M., Ketz, E., Owsen, D., 2003). Deontology application is limited for the ethical dilemma associated with shredding accounting documents not used in the year-end financial statement presentation because the question requires consideration of uses for the shredded documents outside of the year-end presentation. However, deontological concepts will also be incorporated to discuss the results of selection of potential courses of action identified through application of the decision making model.

In an attempt to resolve the ethical dilemma in answer to the question "is it ethical to shred accounting statements not specifically used by management for annual year-end audit financial statement presentation?" a modified AAA ethical decision making model will be utilized as a cornerstone using all seven steps of the AAA model but expanding steps 1,4, and 6 to include application of basic normative philosophical theories coupled with consideration of pragmatic tools for assessing legal and corporate political system implications.

ETHICAL DECISION

The question "is it ethical to shred accounting statements not specifically used by management for annual financial statement presentation?" will be applied further through this chapter and a decision will be identified. The modified AAA ethical decision making model will be utilized and any decision reached.

Step 1's requirement is to *determine the facts.* The facts are the auditor has been informed current year monthly accounting statements not specifically used by management in the year-end financial statement presentation were shredded. The facts surrounding the question also include management's position that the decision was made to shred documents because management did not use those statements for the annual audit purposes and does not want to spend additional resources answering questions that may be raised by the auditor during an assessment of the year end valuation of trust receivable calculations. Operational usefulness is however also provided through the monthly review of the accounting statements not utilized in the year-end financial statement presentation. Investment activity can be analyzed, trustee performance and even abuse can be detected, and an analysis of monthly income and expenses and status of beneficiaries can occur. These operational considerations are deontological concepts included in consideration of the facts. Management's justification of the shredding based on a perceived cost savings associated with the external audit resources is a utilitarian concept that will also be considered.

Step 2's requirement is to *define the ethical issues*. The ethical issue is whether or not management directed the shredding of accounting documents for a purpose other than reducing the potential for additional resources in time and money by addressing questions that may arise through review of the statements in the normal course of year-end financial statement audit efforts.

Identification of major principles, rules and values occurs in Step 3. This step will be expanded to include legal rules and corporate requirements. The norms, principles, and values are management has a fiduciary duty to stakeholders to have impeccable integrity and to ensure the company is providing a 'true and fair view' of its financial situation at the time of the audit. Auditors are entrusted with the task of opining on a company's financial accounts and anything that prevents or interferes with an auditor's due diligence could lead to a failure of the auditor's duty to stakeholders.

Since the undisclosed Charity operates as several independently chartered entities, state law in each chartered location has an impact on how fiduciary responsibilities are articulated and enforced. The undisclosed Charity complies with California state law as a minimum governance standard. In the context of California charities, the State of California considers charitable funds to belong to the public. Directors of nonprofit public benefit corporations have a statutory duty of care and according to California Corporate Code § 5231, "Directors must use such care, including reasonable inquiry, as an ordinary prudent person in a like position would use under similar circumstances. This duty requires familiarity with the organization's finances and activities and regular participation in its governance" (CAL Corp Code § 5231). According to California Probate Code section 16047 a "duty of care is imposed on trustees in the State of California. A trustee in California has a standard of care for investment and management of the trust's assets" (CAL Probate Code § 16047).

The Charity's code of ethics states "consistent with the provisions of any applicable document retention policy, no associate shall falsify, destroy, mutilate, conceal, or fail to make required entries on any record within the associate's control, including the destruction of documents that are the subject of an investigation or a civil or criminal action to which the Charity is a party" (Undisclosed Charity, n.d.).The record retention policy at the undisclosed Charity does not address the requirements specific to trust agreements and their supporting documents which include monthly trust accounting statements. The record retention policy does indicate that any destruction of records requires thirty days advance notice to all interested parties so that all parties are involved in the destruction decision (Undisclosed Charity, n.d.). While it is not known if management was familiar with the record retention policy, thirty days advance notice was not provided to potential interested parties, including the internal and external auditors and legal staff responsible for management of probate trust assets.

Step 4 involves specification of *the alternatives*. Option one is to not order the destruction of records that may raise questions and require resources to address. Option two is to determine the records can be destroyed because the operational usefulness does not outweigh the potential cost of addressing questions that may result in a change in the year-end financial statement valuation and the activity is not deemed potentially illegal. Option two can be selected if it is determined that fiduciary responsibility is not violated by the activity and if stakeholders are willing to require external and internal auditors to spend additional resources obtaining the shredded accounting statements directly from the independent third party trustee if they have an interest in review of the content.

Step 5's requirement is to *compare values and alternatives and see if the decision is clear*. The course of action most consistent with the norms, principles, and values in Step 3 is to not shred documentation because it is a violation of both the Charity's record destruction principles for notification of interested parties and it is a potential violation of California state law because it weakness the ability of the undisclosed Charity to demonstrate duty of care in investment and management of trust assets.

Step 6's requirement is to a*ssess the consequences.* As a result of option one, management would not direct the destruction of records that may raise questions and require resources to address. Management may spend additional resources in time and money to address any questions that arise during the year-end audit procedures. Management may be forced to admit an error in accounting valuation.

From a transparency and corporate governance perspective, the fact that management directed documents to be shredded for the sole reason of reducing questions that may be asked by an auditor during the year-end financial statement audit should naturally lead any donor, investor, partner, employee, or other stakeholder to ask "what else would they shred when it really matters, or what else have they already shredded?" Option one would allow management to maintain and enhance the reputation and social standing of the organization, maintain public confidence in the audit results, and would serve the best interests of most stakeholders.

As a result of option two, management would risk being in both reputational integrity jeopardy and legal trouble if the destruction of the records was made public to key stakeholders. Documents and records can be: The smoking gun proving fraud, lack of oversight or mismanagement of assets, employment discrimination, sexual harassment, conflict of interest, etc. The evidence that disproves fraud, lack of oversight or improper management of assets, employment discrimination, sexual harassment, restraint of trade, conflict of interest, etc.

One other consequence to address is whether or not the management direction to shred was profitable. This question ties to the normative theory of utilitarian and is of interest to accounting professionals because it addresses the topic of profitability and cost versus benefit. The total hours spent researching questions and spending resources for external audit additional questions in the prior year for the area of trust accounting is best estimated at what was tracked by Internal Audit at 75 hours. Using a blended charge rate for external audit resources of $180 per hour, the benefit of shredding accounting can be estimated as $13,500. In an organization where the annual fees are approximately $1,500,000 annually, the benefit of shredding documents that may raise legal and transparency or governance questions does not outweigh the cost.

The final step of the AAA model is to *make the decision*. Therefore, the final decision reached through application of the model is the management action identified in the question of "is it ethical to shred accounting statements not specifically used by management in the year-end audit?" is deemed unethical. Management should be open to questions and should demonstrate accountability, transparency and proper governance practices.

IMPLICATIONS

Management's decision to direct the shredding of accounting statements they did not feel were pertinent to the year-end financial statements was unethical. This decision was only realized through careful analysis of accounting and ethics literature as well as objective application of accounting and business ethical decision models.

There are two primary reasons the position reached in chapter four is correct. First, a modified version of the robust and widely accepted model from the American Accounting Association was applied. The application of the modified AAA model highlights a concern that the activity was not only a violation of norm and practices in the Undisclosed Charity by violation of the records destruction policy but the risk of legal implications is also raised after consideration of California probate law. Secondly, why utilitarian concepts were considered in the modified model, utilitarian rationale cannot be the sole determinant for management decision in this case because the minority interests cannot be assured or even known at the time of the destruction.

This paper illustrates the need for continued exposure and elevation of the topic of ethics in importance in accounting curriculum. The external auditors for the case under review were made aware of the destruction of the records, yet they did not question the ethical impact of the management action. They took the position that if the uses for those shredded accounting statements were mainly operational effectiveness and efficiency functions outside of the financial statement from which they were opining, the issue would be more of a violation of company policy relating to record destruction rather than an ethical issue. No consideration was placed on what else could have been destroyed that may have a financial statement impact and no consideration was placed on modeling the dilemma in the format highlighted in chapter three. The question arises ”were these external audit professionals trained adequately in their education and subsequent professional training to discuss potential ethical issues or were they trained solely to opine on the financial statements presented to them from management?”

The danger of teaching classical ethical theories in isolation (for example teaching only to look at utilitarian approaches such as a cost versus benefit analysis) or even as merely theory concepts is that students may be left with the impression that they are equally appropriate or always morally justifiable. If instructors nonetheless teach these theories to students, the instructors should explain the strengths and weaknesses of each.

While the role of individual cases to instruct students in accounting ethics appears essential, thought must be given to the selection of the cases that serve to best illustrate the ethical principles that the community of accountants has chosen as essential moral principles. Additionally, accounting educators who teach about the AICPA Code of Professional Conduct should be cautious about teaching the material as an end in itself, rather than as a means of understanding professional responsibilities. To focus on the rules of professional conduct deprives an individual from the practice of critical thinking and professional judgment and leaves room for ambiguity. An alternative approach to teaching detailed rules, such as independence rules would be that such an assignment that combines group work, research skills, critical thinking skills, writing, and ethics. It treats the rules as something that the students should be able to research, because compliance is important to the profession, but does not treat the rules as ‘‘answers’’ or ends in themselves. Even though accounting students may be exposed to ethical issues more often than other business students, this case demonstrates simple exposure to ethical issues may be necessary, but not sufficient, to change students’ and ultimately professionals’ ethical behavior.

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Challenging, Intrinsic Factors that Affect the Longevity of Direct Care Staff Who Work with Clients Possessing Intellectual Disabilities

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The present phenomenological, qualitative research study reports four challenging, intrinsic factors that affect the longevity of direct care staff (DCS) who work with clients possessing intellectual disabilities (ID). The sample of 28 DCS was drawn from two Midwestern residential facilities. First, participants detailed the potent effects of burnout and the ever-present threat that this tendency poses. Participants also described the importance of managing stress and its impact on burnout potential. Second, participants shared policy changes which resulted in restricting the interactions between clients with ID and direct-care staff—and their overall dissatisfaction with such restrictions. Additionally, participants reported three frustrations they experienced relating to management. DCS shared perceptions that administrative staff did not value their work, did not value their input, and that expectations held by management were not grounded in reality. Finally, participants shared three character traits necessary for successful long-term direct care work: flexibility, patience, and dedication.

INTRODUCTION

Direct care staff (DCS) in long-term care facilities often face a challenging milieu. Many work long hours, are poorly paid, receive minimal benefits, and are prone to injury and depression (Malhotra et al., 2012; Zimmerman et al., 2005). Little empirical research literature exists regarding intended turnover within mental health organizations, even though high rates of turnover have been reported (Bunger & McBeaht, 2012). DCS have a particularly important role when providing services for people with intellectual disabilities (ID). Colton and Roberts (2006) reported that, in England, over 54% of administrators experienced difficulties in retaining residential child care staff. Colton and Roberts predict that a high turnover rate among children's services staff who work among residential child care also exists in America. Recently, some research attention has been devoted to the roles, responsibilities, and working conditions of DCS in residential settings for persons with disabilities (Ford & Honnor, 2000).

Happell, Martin, and Pinikahana (2003) reported a growing concern about stress and burnout among DCS. The term "burnout" is used to describe the emotional exhaustion experienced in the public service. A primary cause relates to organizational factors and burnout tends to be a process rather than a fixed state. Happell et al. believe that the individual and the environment both tend to be contributors and result from negative experiences that lead to staff turnover. Gallon et al. (2000) reported that an annual 25% turnover rate is common among treatment agency staff, and the turnover rate mostly is not because staff are fired but, rather, because they voluntarily quit.

A number of studies have identified high levels of staff turnover and burnout for DCS providers in community residential programs (e.g., Zimmerman et al., 2005). Demographic data have shown that male workers, younger workers, and those working for 1 to 2 years generally report having experienced more stress. Burnout can result from people entering their work with high goals and expectations, then feeling as though they have failed. Sentiments of powerlessness and hopelessness, often lead to eventual burn out (Beevers, 2011). Additionally, data suggests that DCS often quit, not because they are dissatisfied with their jobs. Experiencing job satisfaction offers no guarantee that workers will remain in the service either (Colton & Roberts, 2007).

Job satisfaction refers to an individual's reaction to specific dimensions of a job, as well as the job experience as a whole (Van den Pol-Grevelink, Jukema, & Smits, 2012). Also, job satisfaction has been described, according to Happell et al. (2003), as an affective state that depends on the interaction of employees, their personal characteristics, and values or expectations with the work environment and the organization. Job dissatisfaction occurs often as a source of and an outcome measure of stress and burnout. Research by Happell et al. has shown that the structure, organizational atmosphere, job tasks, pay, potential for advancement, personal recognition, leadership style, and perceived effectiveness are major factors that often impact job satisfaction. When people have not reached the job satisfaction they wanted or intended, burnout, stress, and job turnover rates many increase. Whittington and Burns (2005) has concluded that staff beliefs and feelings about their work are likely to impact their experiences of work stress, the possibility of burnout, and the involvement in interventions by professionals such as clinical psychologists. Not only can burnout be caused by heavy workloads, poor pay, low status of the work and poor supervision (Colton & Roberts, 2007), but it also is influenced by the tension or conflict between the different ways of understanding and responding to patients' challenging behaviors. Colton and Roberts have found similar factors that contribute to high turnover rates, such as low status at work, poor salary levels, insufficient training, and the difficulties experienced in coping with challenging people. The difficulties of balancing work and family life also have been known to impact high turnover rates.

The present study addresses the longevity factors related to DCS, garnering their perspectives regarding what motivates them to continue working with this population. Administrators of facilities for persons with ID find it challenging to locate, hire, and retain quality DCS. Treatment administrators have reported that they annually spend significant amounts of money and time in replacing departed staff (Gallon et al., 2003). Consequently, a potential benefit of the present study is that, as administrators better understand the perspectives of DCS, they ultimately can improve the services offered to persons with ID by hiring and retaining the best quality DCS possible. Hiring replacement staff can be very challenging for both the employees and the persons with ID. Consequently, reducing DCS turnover may have direct bearings on enhancing the quality of life for many persons with ID.

Salkind (2011) suggests that qualitative approaches can be highly useful for studies where little depth of understanding is known regarding a proposed research construct. The present current research literature has focused on surveying various dynamics related to job satisfaction and turnover with DCS who work with persons with ID. However, there are no rich or thick descriptions (Leedy & Ormrod, 2012) regarding how DCS come to understand these dynamics or in what manners these factions impact perceived job quality and, consequently, longevity. Our present qualitative research approach helps to rectify this gap in the present research literature.

In sum, the objective of the present study was to provide a phenomenological, qualitative research study that related the percepts and understandings of how DCS understand their roles in working with persons diagnosed with ID. We aimed to relate the conceptions in a systematized means, in accordance with standard and established qualitative protocol. By temporarily entering into the worlds of DCS through in-depth interviews, we endeavored to help relate to readers challenging, intrinsic factors which affect the longevity of DCS who work with clients possessing ID.

METHOD

Participants

Participants for the present research study came from two organizations located in medium-sized Midwest cities that provide services to persons with ID. The facilities are located in the same and have no organic affiliation with one another. We selected one institution that was state operated and another that was privately operated (i.e., not state-run) in order to provide sampling from DCS in both public and private sectors. Obtaining ready access to the employees in both institutions was a salient factor when selecting these particular two organizations. That is, the administration allowed us full and unrestricted approval for interviewing any and all DCS in their respective institutions. Both organizations operated multiple residential facilities and serviced a full range of residents: mild, moderate, severe, and profound ID. We recognize the reality that the world of ID work is somewhat of a small and tight-knit circle. Consequently, in order to maximize the privacy of the facilities and the confidentiality of the research participants, we deliberately are choosing not to share additional demographic information regarding the respective organizations (e.g., number of clients the organizations served, number of employees in the organization, etc.). Some administrators likely would be able to guess or figure out the names of the residential facilities—if we shared additional information—and others might guess or assume inaccurately, making potential incorrect inferences about the organizations. In sum, we believe it best to share minimal data relating to the facilities where the participants worked.

More importantly, information regarding the participants follows. Consistent with recognized qualitative research protocol, we utilized criterion sampling (Harsh, 2011; Liamputtong & Ezzy, 2009) as the basis for selecting individuals in both the residential facilities. We used the criterion of 8 years of continual DCS to persons with ID as the minimal number of years needed in order to participate in the present study. This number was derived from discussing the objectives of the study with the administrators of the respective institutions. Given the personnel working at the organizations at the time of data collection, we believed that there likely would be ample numbers of participants available in each setting in order to reach saturation (this construct is discussed below).

The administrations provided the names of DCS who served ID populations for 7 years or longer and we began randomly selecting individuals from these lists. Roughly half of the total sample used in the present study came from both organizations. When identifying a potential subject, he/she was contacted by phone and invited to participate in an in-depth interview, discussing his/her perceptions of DCS. Each potential interviewee agreed to participate in the study—with no attrition. We utilized semi-structured interviews (Roulston, 2011), exploring the general constructs of reasons for entering the field, perceived intrinsic and extrinsic benefits and liabilities of DCS, the participants' reasons for staying in the field, and intrinsic and extrinsic motivations for being in DCS. Semi-structured interviewed were used in order to provide the participants with opportunities for sharing their percepts and ideas without rigid scripts, as sometimes occurs with structured, verbal surveys. As such, participants were free to deviate from the questions being asked and share stories, illustrations, and take the interview in directions that seemingly best help the participants to relate their inner-worlds and ideas.

We continued selecting names and conducting interviews until saturation (Creswell, 2012a) occurred. In qualitative research conceptualization, this means that we continued adding new participants to the study's sample as long as new individuals were adding additional, novel information to the overall potential themes. Saturation occurs when adding new people to the research sample no longer provides new, meaningful data. This occurred in the present study at around 26 or so interviews. Consequently, we stopped data collection with 28 interviews. Creswell (2012b) indicates that a sample size of about 25 or so individuals, all who experience the same phenomenon under investigation, often produces saturation in qualitative research studies. In sum, following the protocol of experts such as Guest, Bunce, and Johnson (2006) and Neuman (2006), we believe the sample size utilized in the present study was adequate for the intended design and purpose.

The average number of years that individuals in our sample served in DCS at their respective organizations was 15 years. The number of years served ranged from 8-24 years. Additionally, the average total number of years that the individuals served in DCS, either at their present locale or previous DCS with ID populations, was 16 years—ranging from 8-27 years. Approximately 60% of the total sample was female. Eighty-six percent of the sample was Caucasian and 14% identified themselves as African-American. Seventy percent of the sample possessed high school diplomas as their highest educational attainment, 18% attended college for less than 2 years, and 3% of the sample had a four year college degree, 3% had a two year college degree, 3% graduated from a beautician school, and 3% did not graduate from high school. The average age of the individuals in our sample was 50 years old. The ages ranged from 33-62 years old and one middle-aged individual preferred not to state her numerical age. Naturally, the names used in the present article in order to enhance reading clarity are pseudonyms.

Procedure

Following Firmin's (2006a) protocol, interviews occurred in two waves. In qualitative protocol, this means that all participants were interviewed during the first wave. All interviews were tape recorded and transcribed for later analysis. Selected participants were selected for follow-up, second-wave interviews, based on needs for clarification, elucidation of original interview statements, and the addition of illustrations to elaborate further particular points that were made. The transcripts were coded (Bereska, 2003), using a line-by-line protocol (Chenail, 2012a) for reoccurring words, phrases, concepts, and constructs. Some codes that initially seemed promising were later discarded due to lack of consistent support across the participants' transcripts. In other places, codes were combined or collapsed into major categories in order to keep the analysis of all the transcripts manageable. A constant-comparison analysis (Silverman, 2006) consisted of relating each new transcript codes with the previous transcripts, observing similarities among the responses by the participants. Following Gay, Mills, and Airasian (2009), data analysis often involved asking key questions, conducting organizational review, visually displaying the findings, and concept mapping.

The use of NVIVO qualitative research software enhanced the process of moving from coding the data to generating themes. It assisted with the organization of the material content analysis. However, consistent with caveats by Bazeley (2007), we did not use the software in purely mechanistic means. That is, we were careful not to let the software replace our own human factors analysis, applying our own intuition, conceptualization, logic, and experience to the coding process. As such, the qualitative software helped to enhance our due efforts and not to replace the work that only the human element can see and report in qualitative studies (Lewins & Silver, 2007).

The themes generated and reported in the present study represent the consensus of the study's participants. These themes were generated inductively from analyzing the transcript data. As such, we utilized open coding (Maxwell, 2012) strategies throughout the project. In qualitative terms, this means we did not begin with any pre-conceived categories for analysis. Rather, we drew from the data what we perceived to be the common perceptions among the participants and related those to the reader in a systematic manner. Also, we are well aware of the debate in phenomenological and grounded theory qualitative research regarding the potential role of theory (Frost, et al., 2010). That is, some qualitative experts (e.g., McFarlane & O'Reilly-deBru, 2012) argue that theory should be used when framing a study and interpreting its results. Others (e.g., Raffanti, 2006), in contrast, believe that theory should be bracketed—deliberately held at bay—and not incorporated into research design or interpretation, since that is the reader's role—not the researcher's. Obviously, we are not going to settle the issue in the present article, but we do explicitly note that our avoidance of theory—both in the study's design and discussion of the results is deliberate and not an oversight. It follows a long-standing commitment we have to a more traditional paradigm of qualitative research, which is scholarly acceptable and a viable approach for this type of study (Cresswell, 2012b).

Our intent was to generate an article that achieved high standards for rigor in the qualitative research tradition (De Wet & Erasmus, 2005; Sin, 2010). Toward that aim, we built into the study elements that were designed to enhance its internal validity. One included meetings among the researchers (authors) when coding and analyzing the transcript data. Discussions of potential codes and how those eventually translated into themes that aptly represented the consensus of the participants in the study were invaluable. Obviously, good qualitative research results can be generated from a sole researcher's perspective (Silverman & Marvasti, 2008). At the same time, however, experts also generally share a consensus that the collaborative process aids in qualitative research process. Discussion, debate, and examination of potential preconceptions or biases, considering alternative explanations, are examples of how the group analysis process often aids qualitative analysis in proactive ways. The findings also may be considered generally more reliable since the reported themes represent the agreement of multiple researchers—rather than one individual's narrow perspective. The results reported in the present study are the ones that all members of the research team agreed represented the participants' consensus.

Internal validity also was enhanced through generating a data trail (Tracy, 2010). This is a qualitative research process where authors create a document, showing how each of the findings reported in a study are grounded in sufficient transcript data in order to show adequate validity of the findings. The use of the NVIVO software is particularly useful toward this end. Benefits of generating a data audit include reducing the likelihood of researcher fraud, providing confidence that the reported results represent the consensus of the research participants, and aiding future researchers with a potentially useful structure when replicating and/or furthering the research study with other samples.

The use of member checking (Carlson, 2010) also enhanced the study's internal validity. This process involves presenting the findings of a study with the various participants who provided the original interview data. The process helps to ensure that the results being reported adequately represent the actual percepts and sentiments of the participants. Consistently, we found that interviewees reported that they concurred with the reported findings and that the manner that we communicated the results represented the gist of what they intended to relate.

Internal validity also was enhanced through the use of an independent researcher for this study (Flick, 2006). This is qualitative research process of utilizing an expert who was not involved in the data collection or analysis to review the transcripts and procedure followed in the study. The general idea is that internally valid conclusions reasonably should be visible, following the data trail data, from transcripts to conclusions—by someone who was outside of the data collection process. Natural connections should be apparent, without forcing conclusions or imposing biased perceptions on the data. Rather, the results should be grounded such that a reasonable trace can be naturally seen from the conclusions drawn to the transcripts and codes that produced the findings.

And finally, internal the study's internal validity was strengthened through the use of low inference descriptors (Chenail, 2012b) when writing the manuscript. In qualitative research terms, this means we used both a wide variety of quotes as well as provided a reasonable depth of citations from the participants'' transcripts. This grounds the reported findings so that it helps insure authors are not imposing their own percepts onto the research results.

RESULTS

The present study reports four challenging, intrinsic factors that affect the longevity of DCS who work with clients possessing ID. First, participants detailed the potent effects of burnout and the ever-present threat that this tendency poses. Participants also described the importance of managing stress and its impact on burnout potential. Second, participants shared policy changes which resulted in restricting the interactions between clients possessing ID and direct-care workers—and their overall dissatisfaction with such restrictions. Additionally, participants reported three frustrations they experienced relating to management. DCS shared perceptions that administrative staff did not value their work, did not value their input, and that expectations held by management were not grounded in reality. Finally, participants shared three character traits necessary for successful long-term direct care work: flexibility, patience, and dedication. Two additional themes also were found in the data but, due to pagination limitations for the present article, will be reported in other, future journal articles: positive, intrinsic factors that affect DCS' longevity and extrinsic factors that affect DCS' longevity.

The Potency of Burnout

Participants in our study repeatedly affirmed the cogent force of burnout as it contributes to the depletion of needed DCS for persons with intellectual disabilities . Most DCS in the study described burnout as the point at which an individual no longer enjoys his/her work. David, for example, candidly described the negative effects of burnout on one's job:

> Oh, yeah, [the potential for burnout definitely exists], and I see it a lot. I see it where people really don't care and they just go through the motions. And I think, "Why are they even here?" Sometimes I wish they would leave. It sounds mean, but I don't like to work with those people that just do it and do what they have to do and then they are done. No interaction at all. That's burnout, and that's when I think…if you don't have compassion then it is time for you to go look for something else.

In addition to describing the typical outcomes of burnout, participants further explained that the potential for burnout was high. DCS's emotionally related the various dynamics of their work that loaded into their tendencies toward experiencing burnout, emphasizing the seeming inevitability of this phenomenon. Rebecca, for example, explained that the potential for burnout was something that she and her collogues faced daily. Another participant similarly affirmed the encompassing effects of burnout that most DCS in our study reported: "Just about everyone gets burned out sooner or later, so we see it every day."

Additionally, participants related specific occasions when burnout tends to increase. DCS we interviewed explained that particular clients were more challenging to assist than were others. Consequently, individuals who worked in these especially stressful environments seemed more prone to burnout. Tara, for example, explained: "Burn-out, yeah, definitely. Especially working full time and coming and working with the same thing every day. Especially if you work at a home with more aggressive clients or something like that, there is more potential there." DCS in our sample also explained that particular days, weeks, months, or times of the year tend to vary relative to difficulty. Burnout seemingly correlated with these difficult intervals in the eyes of our participants. Megan aptly summarized the outlooks of her fellow DCS in this regard:

> I think that there is burnout, simply because you get frustrated after a while and you have to kind of rejuvenate. That is one of the benefits we have, we have a lot of leave time, which gives you that extra time for getting away, so you can come back with a new relaxed feeling. There is a potential for burnout, especially if you are having a bad year. Like, a lot of our folks passed about two years ago, which was a really hard time.

In addition to describing the dangers of burnout, participants also detailed their efforts to overcome these tendencies. Overall, DCS in our sample explained that avoiding the factors which typically contribute to burnout seemed near impossible. Instead, as Dan phrased it: "It's all how you deal with things." On a day-to-day basis, participants shared that stress was simply a part of their job. Responding appropriately to stress-related aspects of their work seemed to be key, in the eyes of our participants, to successfully overcoming burnout. Helen, for example, summarized most DCS as she reflected on necessary response patters: "This job does [have the potential for burnout], if you let it. You have to be responsible and considerate to yourself sometimes. If things get a little heated, you need to learn to step away and go somewhere else and take a deep breath. You need to clear your mind because this can get very stressful!"

DCS we interviewed also described the importance of a positive outlet after regularly handling such high stress levels. Seemingly, failure to properly handle work-related stressors significantly contributes to burnout experienced by DCS. Sarah further explained:

> You are really confined in here and you have no place for an outlet, and you are always surrounded by the individuals [residents]. And it can get to you quick, and I think a lot of young people have trouble finding out how to release it in a productive way instead of just getting mad and wanting to leave. Everyone can frustrate you at times, and there is no place to go [when you're here], and you are just stuck in these walls for 8 hours with no outlet.

Consequently, participants explained that, as stress builds, often it was necessary to "get away" temporarily from their work environment. These DCS further clarified that vacation time often functions as a powerful antidote to burnout. Chris, like most participants, summarized the perceived need for regular vacation time in response to stressful job dynamics: "Yep, you do experience burnout! In fact, I just got through a phase where I was tired of laundry, tired of this and that, but you get over it or you get burned out—and that is when you need a vacation!" Additionally, DCS in our sample described perceptions that the nature of their job merited the need for time-off. Participants further viewed vacation time not as a benefit but, rather, as a necessity. Laura, for example, explained this perception shared by most DCS in our sample, when reflecting on the perceived stress she regularly faced while working:

> On third shift, we do get interaction with them also, and we usually have 2 or 3 that are up all night. And of course we got laundry to do and get breakfast ready for the morning and then do room checks, and bathroom checks for each individual. So, we *always* have something to do…[and] there is potential for burnout! But that is what vacation and paid time is for. They understand for the most part that we need time off at times, because it does get stressful!

Unwelcomed Policy Changes and Restrictions

Consistently, participants from both facilities voiced their overall frustration with the increasing restrictions regarding DCS' interactions with clients. Many of these particular changes were instated for the protection of persons with ID However, participants in our sample felt that, instead, these restrictions severely limited the depth of meaningful interaction possible between DCS and clients. For example, James described the difficulty he now encounters when seeking to relate to clients because of increased restrictions:

> Well, you have to have hands-on contact [when working with the MR population], you can't just sit here and talk to them like I am talking to you. [However], it is getting so anymore that if you just touch them, then "Oh, that is abuse!" or the tone of your voice, that is abuse, too. I mean, they do need their rights and everything, but you need to relate to them and work with them daily. So it's getting tough to get things done.

Participants seemingly understood that most restrictions were instigated with the intent of increasing the protection of individuals with ID. However, DCS in our sample explained that abiding by these rigid limitations consequently meant limiting their ability to invest personally in the clients with whom they worked. Most individuals in our sample felt that these growing restrictions hindered them from truly connecting in the lives of their clients. Amanda, like most participants, shared the change in mind-set she has been encouraged to adopt that better fits the "impersonal" work tactics she now feels required to adopt:

> I wish I was still able to take the individuals out. We used to be able to do that on our own time if we wished to but, because people thought they should get paid to do so, they put a stop to that. I used to take them to Thanksgiving at my house, and now we can't…I would like it to be more family-oriented [here], but they stress us to not get too

> personally involved. But how can you not? If you have the compassion like you should, then it's impossible not to.

Frustrations with Management

Participants in both facilities also shared three major frustrations they experienced related to their administrative staff. First, DCS in our sample felt that management, overall, did not respect those (line staff) working beneath them. Repeatedly, participants described the lack of respect they perceived was shown to them by management, emphasizing the demeaning nature of such administrative attitudes. Kathy summarized most participants in this regard: "What frustrates me the most is that sometimes I feel we are not appreciated because we are the underdogs, we are the caregivers….I think a lot of it is feeling just unappreciated by the higher up." Participants in our study further described their perceptions of mal-treatment when receiving instruction from management. DCS explained that their desire was not to disrespect management. Rather, participants seemingly found it difficult to support management wholeheartedly while administration seemingly belittled the knowledge and experience DCS had acquired over the years. Kate aptly illustrated most participants' sentiments when describing personal attitudes toward administration:

> I find myself most frustrated by management. Sometimes you feel that they want to tell you do things that you kind of already know how to do, and you don't feel like you get the respect that you should get. You just kind of feel like they are your boss, and their way is right—and it doesn't matter what you say, *this* is how we are going to do it! The main thing is to make sure the residents are taken care of, but sometimes it's hard to do when management steps in and tries to act like they know what's best.

Second, participants also described frustrations related to the amount of influence they perceived DCS held in relation to administrative staff. Participants seemingly were not reacting to their supervisors' authority or to being told what to do. Rather, participants felt that, because DCS regularly interacted and cared for clients more than administrative staff, the perceptions of DCS regarding the needs of clients naturally were more accurate. Consequently, participants, such as Hannah, explained the desire of most DCS in our sample to have a stronger voice when it came to administrative decisions that impacted residents: "I would change things so we were listened to more, as to the client's needs, when we are the ones working with them all the time, and we know more than [the administration] what they [the clients] are anticipating us to achieve with them."

Participants further shared perceptions that little communication perceived to exist between administration and DCS in regards to best serving the clients. Resultantly, DCS in our sample felt as though they had little, if any, say in the decision making process as it related to clients with ID. Emily, like most DCS in our sample, voiced her frustration with these policies: "I guess to feel like you are appreciated for what you do and have more say in things around here…maybe if we had more power to try and get things done, we could write something up where it could go to someone higher to where things will be getting done about that." Additionally, participants felt that their insight significantly would help administration make *better* decisions and policy changes. Individuals in our sample explained that, working with clients directly, 8 hours a day, naturally provided them with potentially valuable insight. Angie explained:

> It's so frustrating *w*hen you know something is wrong with the individual [resident] but the administration won't listen to you. The administration never listens to you, and they need to because *we* are with these individuals all the time and we get a feel for what they need and want! I think we should have more say. I mean, we can work with the administration to help with their program goals, and [still] work directly with residents.

The third set of frustrations that participants in both facilities shared related to the perceived expectations held by administrators. DCS in our sample felt that management's expectations were difficult, if not impossible, to reach. Julie, for example, described this disconnect between her perceptions of management's expectations and the difficult reality she faced when working with residents and trying to implement some programs:

> It's not so much the individuals [residents] that are frustrating, as much as it is what management thinks we should do. I don't know, they have so many rules and expectations that just can't be reached. They live somewhere where we don't want, and it is hard for us to do what they [administrators] want us to do with them. The individuals are not the problem. I mean, they can get a little tedious and a little out of hand, but that's life, that's family, that's nothing, you know? But management expects so much!

One recurring explanation for the disconnect between management's expectations and the perceptions of DCS was the vantage point from which both groups viewed residents. Participants felt that, because they worked day in and day out with the residents, and the administrators did not, DCS' perceptions of attainable goals were more accurate than the goals set by administrators. Anthony further summarized most participants' sentiments in this regard:

> I am most frustrated by management! They act like they know these individuals and act like they can write the programs for them—and they haven't spent one minute with them! If you are going to write a program or prescribe medication for them, you need to work with them and get to know the person on that kind of level. Also, management expects us to get all this stuff done with a little chunk of time, and it is nearly impossible, because every day is different for these people.

Traits Necessary for Long-Term Direct Care Work

Finally, participants shared three traits they deemed necessary for future DCS' to possess if aiming to continue such work for the long-term. First, individuals in our sample detailed the importance of flexibility when working with populations of individuals with intellectual disabilities. Participants further shared that, due to the nature of their work environment, managing and embracing change became necessary skills of DCS. Ashley further illustrated the importance of such flexibility:

> You have to learn to be adaptable, to change. In this field, there are always changes, whether it is management or direct care staff, there is constant change. For example, when the staffing changes, the whole dynamic of the house changes, and the individuals' attitudes and behaviors change, too. So you have to adapt. And the most important thing is to make them [the residents] feel that everything is going to be OK, despite all of these changes.

Further, participants explained that flexibility is also important because it is linked with a selfless perspective. That is, DCS who were not able to adapt easily to the ever-changing needs of residents, likely were not individuals who also stuck with direct-care work as a long-term position. Olivia, for example, summarized the sentiments of most participants when describing the perspective needed to work with the population at hand: "You have to have patience and learn to adjust to their schedule, not yours. You can't have anything on a time frame, it is their time, their house, their way. And you're not going to change that, so you just have to do what they want sometimes (laughs)."

In addition to flexibility, patience seemed to be a recurring character quality our participants deemed necessary for successful, long-term interactions with residents who possess intellectual disabilities. Specifically, participants explained that if DCS were not ready to demonstrate liberal amounts of patience, then working with such populations likely would not be enjoyable, especially long-term. Peter, for example, summarized the necessary patience described by most participants:

> It gets tough around here sometimes, but you just have to try and get over the hump, just like anything else you experience, and it takes patience. Patience is a strong thing you need around here, and understanding! Just because, when you deal with our type of people, you get overwhelmed sometimes. So, learn to take a break and take it easy.

DCS in our sample also explained that patience was necessary when forming expectations regarding residents' behavior. Additionally, participants explained the necessity of holding adequate expectations regarding residents' progress. That is, were DCS to hold unrealistic expectations in this area, patience with residents quickly would wear thin. Christina explained:

> You need to know that it is going to take longer to achieve goals that are set up for each individual because of their limitations, and you can't accomplish as many goals sometimes, and it takes a longer time to do so. You have to have a certain personality, and you have to be giving and open for anything. You have to be flexible and be able to turn your feelings on and off like a switch of a light—because you can't hold nothing against the residents. You need to encourage, love, and nurture people.

Finally, participants explained that long-term DCS needed to have an internal sense of dedication to their work and to the residents. Participants explained that dedication is what caused some DCS to stick with such work, while many others moved on. Stacie further described the importance of dedication, especially when work-situations seemed discouraging:

> Make sure this is what you want to do, because it is demanding. It is just not here, when you go out of here, you take it with you. You need to be really dedicated. If you are dealing with three or four [residents] that are all having a bad day, it gets rough, and you need to be prepared for that. You need to care for this job and what you're doing.

Participants also explained that DCS who were dedicated to their work focused on the residents and on helping others, rather than the temporary emotions of discouragement they periodically encountered. Most individuals in our sample identified their own personal dedication as key to remaining long-term care providers. Andrew illustrated these sentiments:

> You have to have it in your heart to want to care for these people and be there for them and be their care taker. If you are able to do that, then you will be here for a long time. If you think about them, rather than yourself, then it will be OK and you will get through each day wanting to come back and continue to work here. It helps to seek help from other staff, and to try as best as possible to walk in that door with a good attitude, and know that you will make a difference each day.

DISCUSSION

Results from the present study indicate that participants internalized significant levels of dissatisfaction with administrative staff. We believe these negative sentiments likely impact the overall success of direct care services—and that improving the perceptions of DCS regarding management is in the best interest of administrators. Although job satisfaction cannot guarantee employees will remain in a particular career (Colton & Robert, 2007), low morale among DCS naturally should be avoided when possible. Participants in our sample directed most of their frustrations toward administrative staff since they felt disempowered. Congruent with existing research literature, reviewed earlier in this article, the leadership style, structure, and the organizational atmosphere that comprise a particular institution significantly impact employees' overall job-satisfaction (Happell et al., 2003).

As administrators seek to improve the sentiments of present DCS regarding management, one factor involves giving attention to the selection process when hiring administrative staff. We suspect that administrators who "rise in the ranks," working their way up from direct care work, likely may gain greater respect from the DCS they supervise, because of past, shared experiences, than would someone who had no previous DCS background. That is, because participants felt administration did not value or understand their work, management who once themselves were DCS, likely would better understand the vantage point of their line staff. However, fresh perspectives brought from external hiring holds countering merit. Nonetheless, if these individuals previously held direct care positions, at other facilities, this would be optimal. Administrators with grounding in past direct care of persons with ID seemingly would connect the best with present DCS—assuming everything else being equal.

Furthermore, because participants desired their administrators to empathize and understand the vantage point of DCS, simulating this shared experience also could prove beneficial. Specifically, governing boards for ID facilities may wish to integrate formal policies where all managers and administrators spend a particular number of annual days working direct care with clients. Spending, say, 10 or so days spread throughout the year working directly with clients, side-by-side with DCS, might help to increase respect for the administrators in the eyes of the DCS, and give the administrators a fuller appreciation for the insights DCS have to offer. Such regular exposure to direct care work also potentially would provide administrators who lack recent experience with fresh insights when developing and implementing facility programs. Additionally, such policies would keep administrators attuned to reality-based needs and the actual conditions of expectations when forming the expectations against which they hold DCS. The annual experience of direct care work could be accrued when DCS take vacation days, sick days, periodic emergency times or during other scheduled occasions.

When examining the management-related frustrations, we note that parallel concerns rose among DCS in multiple facilities. We do not intend to suggest that every direct care facility working with individuals with ID struggles with low staff morale toward administrators. Nonetheless, we do note that particular frustrations reported by our participants were not isolated concerns. That is to say, we did not interview participants who all shared the same frustrations because they worked under the same administration. Our sample was generated from individuals who worked under multiple administrators at two separate facilities. Had our information been skewed by dynamics relating to an atypical administrator, then likely these same findings would not have resurfaced at a separate institution. However, because the findings our participants reported showed little variation, we felt comfortable attributing the frustrations shared by our participants to the actual role of the larger administration rather than the particular managers to which our participants referred. In short, we suspect a systematic problem exists—rather than an individual, personnel issue.

Another significant factor impacting the longevity of DCS in our sample was the potential for burnout. Zimmerman et al. (2003) documented these same patterns of increasing instances of burnout among DCS. Similarly, Whittington and Burns (2005) noted the association between high stress levels and burnout. We believe that management working in such facilities should be highly motivated to lower instances of burnout among their direct care staff. Consequently, discovering the root causes of DCS' frustrations, which potentially may lead to burnout, is an important skill set administrators should develop. While helping prevent burnout among DCS does not guarantee their retention, fostering optimal work environments likely will increase the effectiveness of DCS' work. Colton and Roberts (2007) found that burnout often is caused by heavy workloads, poor pay, perceptions that work was low-status, and poor supervision. Consequently, addressing such issues seems a likely requisite to fostering positive work environments and reducing the likelihood of burnout among direct care staff. Administrators and employers, therefore, should be highly attuned to such issues, given their potential negative impact and the potency of burnout among DCS. In contrast, Blanertz and Robinson (1997) reported that clear job descriptions, pleasant working environments, competent and cohesive co-workers, and the availability for staff to provide input on decisions all contribute to low turnover rates among DCSs.

In light of present findings, administrators of direct care facilities for individuals with ID may wish to initiate mentoring programs for new DCS. Individuals who have worked long-term as DCS possess valuable skill sets, necessary for success at their jobs. By pairing incoming DCS with veteran workers, individuals with greater experience can help newer workers through the adjustments that accompany personal learning curves—potentially expediting this process and any other needed transitions. Furthermore, having gained valuable experience as DCS, individuals naturally acquire a repertoire of information from which incoming DCS might profit as they develop perspectives and gain their bearings. That is, rather than forcing incoming DCS to "learn the hard way," guiding them through the learning process with experienced and successful DCS would help set their job compass on due north.

Finally, social support seemed to play a cogent role influencing DCS' job satisfaction. Resultantly, administrators may wish to formalize these already-present dynamics for the purpose of promoting dynamics which seem to foster positive work environments. That is, DCS seem naturally to rely on social support when coping with the stresses of their work. Further, social outlets, if harnessed to generate constructive feedback, likely could prove to be useful potential tools. For example, setting formalized times and locals for regular sharing among DCS seemingly would promote shared connections among coworkers. Ideally, these meetings would serve as venues for meaningful interaction among DCS where they can share constructive ideas, let out steam, and provide encouragement and support for one another. Participants in our study repeatedly expressed perceptions that their "voice" was not heard. Establishing settings in which DCS have opportunities to voice concerns and suggestions would provide these individuals with the desired opportunity to provide feedback to administrators responsible for client programming. In turn, such programs also could provide administrators with timely feedback concerning policies, programs, as well as general staff morale. A circulating feed-back loop cycle for information sharing and continuous improvement is foundational for any healthy organization (Milakovich, 2006).

LIMITATIONS AND FUTURE RESEARCH

All good research recognizes limitations in a study and reports them (Price & Murnan, 2004). As with all qualitative research, the present study suffers limitations in external validity. That is, the degree to which the present findings are generalizable to all DCS in the United States is limited. In that sense, all qualitative research is context-specific and reflects the perceptions and viewpoints of the individuals studied. Ultimately, qualitative external validity is achieved as multiple researchers study similar populations in differing locales, contexts, times, and milieu (Firmin, 206b). Meta-analyses that tie-together the findings from multiple qualitative studies on a particular subject typically generate external the most significant level of external validity. We believe that the present study presents a significant research piece that will contribute to that ultimate end.

Future research should follow, studying DCS in regions of the U.S. that are outside of the Midwest. East and West coast populations, for example, might show somewhat different perceptions from the DCS in our present study—as might also DCS in, say, the northern or southern regions of the country. Similarly, we collected data from two mid-sized cites and future researchers should consider following the present one, studying DCS in both large cites as well as more rural regions of the United States.

Essentially, we employed a cross-sectional research (Bordens & Abbott, 2005) design relative to data collection for the present study. That is, we interviewed participants in two waves at one general point in their careers. Future researchers should consider longitudinal (Berg, 2012) qualitative studies that follow DCS over time. Interviews that routinely occur at particular intervals in DCS' careers might show individual changes over time and how staff tend to cope with particular challenges as they move through their respective careers.

And finally, we believe that the findings from the present study can enhance future quantitative research that appraises DCS longevity. The findings from the present study could be incorporated into national surveys of DCS across the country as total quality improvement initiatives are instituted at the staff and administrative levels. Additionally, grant-funded pilot projects aimed at improving the turn-over rates among DCS may find the results of the present research valuable in targeting potential challenging areas for morale and worker improvements.

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A Comparative Analysis of Mission Statement Content and Readability

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The mission statement is an important organizational tool that forms the foundation for all other organizational objectives and strategies. Furthermore, it helps a firm present itself favorably to the public, as well as identify and respond to various stakeholders. Mission statements vary in length, content, format, and specificity. Most practitioners and academicians in strategic management suggest that an effectively written mission statement exhibits nine characteristics or mission statement components. Since a mission statement is often the most visible and public part of the strategic management process, it is important that it include most, if not all, of these essential components. The purpose of this research is to evaluate the mission statements of Omani firms to determine whether the components identified in the relevant literature are satisfactorily adopted in their mission statements and to measure the readability levels of these mission statements. The findings indicate that the sample firms generally did not include the needed components in their mission statements. However, the readability level of those documents was optimal overall.

INTRODUCTION

To establish a profitable organization in this competitive business world, one needs to start with an innovative and unique set of ideas. Nevertheless, those ideas should be realistic and economically feasible. In the management literature, such ideas are referred to as the beliefs of an entrepreneur that are translated into a running business. According to Pearce (1982), the typical business organization begins with beliefs, desires, and the aspiration of a single entrepreneur. However, as the firm grows in size and complexity, there will be a need to establish and put in place a formal mechanism to communicate the organization's policies, procedures, plans, and strategies to both internal and external stakeholders.

The mission statement is a crucial element in the strategic planning of any business organization. Universally, mission and vision statements are accepted as effective strategic management tools by both academicians and practitioners. Mission and vision statements influence the performance of organizations in two ways – either positively or negatively (Atrill et al., 2005; Bart & Baetz, 1998; Bart, Bontis & Tagger, 2001; Vandijck et al., 2007; Piercy & Morgan, 1994). In a landmark study, Mullane (2002) argued that not only do the statements help organizations develop their long-term plans, but they also help organizations manage their day-to-day operations.

Creating a mission is a priority, and an organization should prioritize articulating it. The initial mission can be the building block for an overall strategy and the development of more specific functional strategies. By defining a mission, an organization makes a statement of organizational purpose. Hence, most organizations operating in the 20th century adopted a strategic management process as an effective strategic tool. The strategic management process includes six main building blocks: vision and mission statements, external analysis, internal analysis, strategy formulation, implementation, and performance evaluation.

The mission statement has been defined in several ways by many authors (Table 1). However, they have all emphasized its role as an enduring statement of purpose for organizations that identifies the scope of operations in product and market terms and reflects the organization's values and priorities. For instance, Drucker (1974) argued that a specific business is not defined by its name, statutes, or articles of incorporation, but by its business mission statement. Only a clear definition of the mission and purpose of the organization can result in clear and realistic business objectives. Likewise, more recent literature has revealed the importance of a mission statement by tagging it as a strategic tool and an essential component in strategic planning (Stone, 1996; Bart, Bontis, & Taggar, 2001).

Many firms have employed a strategic planning process as a mechanism to communicate their policies, practices, strategies, and goals, and the mission statement plays an integral part in this process as it facilitates achieving an organization's objectives and enables it to attain its ultimate vision. As described earlier, the strategic management process enables organizations to constantly scan their internal and external environments and take necessary measures to maintain their sustainability. Consequently, it allows a firm to develop effective strategies in response to changing environmental circumstances, market conditions, evolving technologies, and emerging opportunities and to evade risk and threats.

A well-established and documented mission statement provides the foundation for outlining and drafting business objectives that the organization strives to accomplish. In return, those goals become the barometers against which performance is evaluated (Matejka, Kurke, & Gregory, 1993). Furthermore, the mission statement facilitates decision making, planning, creating effective strategies, and formulating policies for the short and long term. Also, the mission statement provides a clear sense of direction that guides and inspires the organization's executives, managers, and employees toward mutual goal attainment. It assists in setting priorities, plans, and allocating resources toward that end (Cochran, David, & Gibson, 2008).

Establishing a mission statement should not be a one-man show, but a team process involving executives, top-level management of the organization, employees, and if required a third-party consultant. Such involvement may mean engaging all stakeholders in brainstorming and discussion sessions in which each member expresses his or her opinion so that divergent views can be revealed and resolved and mutual agreement can be reached (David, 2004). Moreover, connecting many personnel from different organizational levels to this process contributes to creating, learning, documenting, and communicating an effective mission statement, as well as establishing a stronger commitment by all participant parties to achieve the underling objectives. The process and stages may differ from one organization to another, but the concept is relatively the same.

It is worth mentioning at this point that mission statements can easily become obsolete as a company grows in size and complexity. In addition, as the circumstances surrounding the organization and the environment in which it operates change over time, periodic revisions, reviews, and re-drafting of mission statements is necessary (David and David, 2003).

This research evaluates mission statements in a sample of 45 public companies in Oman in terms of available components and statement readability level. The coming sections are ordered as follows: a review of extant literature on mission statements appears first; this is followed by a brief description of the methodology used to collect and categorize data. The findings are then discussed and communicated in detail, and the study implications and limitations are addressed thereafter. The final section provides a conclusion and offers recommendations based on the conclusion.

LITERATURE REVIEW

A mission statement acts as an internal communication tool that conveys an organization's policies, procedures, plans, and strategies, thereby guiding the behaviors and decisions of management and subordinates. Simultaneously, the mission statement serves as an external communication tool to convey the organization's intentions to the general public (Bartkus & Glassman, 2008). The study of mission statements started in the early 1970s and has expanded since then to take a key place in both the literature and the strategic planning processes of organizations. This trend has granted researching mission statements a focused popularity in academic writings as well as in organizations' strategic management process. Table 1 describes various research studies conducted on the mission statement.

TABLE 1
SUMMARY OF RESEARCH ON MISSION STATEMENTS

Reconciliation amongst the organization's stakeholders divergent views and interests	Drucker, 1974; Steiner, 1979; David, 2005
Identity of Customers of the organization, their anticipations, needs, and wants	Drucker, 1974; McGinnis, 1981; Rarick & Vitton, 1995; David, 2005
Identity of markets refers to the geographical markets of the organization where it competes	Pearce & David, 1987; Rarick & Vitton, 1995; Miller & Dess, 1996; David, 2005
Identity of the products and/or services of the organization or its utility	Drucker, 1974; Abell, 1980; Rarick & Vitton, 1995; Miller & Dess, 1996; Thompson & Strickland, 2003
Identity of use of current technology	McGinnis, 1981; Pearce & David 1987; David, 2005
Fiscal responsibility of the organization towards its stakeholders expressing the concern for survival, growth, and/or profitability which include the commitment to long-term profitability and growth and financial soundness	Pearce & David, 1987; Freeman & Gilbert, 1988; Rarick & Vitton, 1995; Miller & Dess, 1996; Hills & Jones, 2002
Social responsibility of the organization towards social, community, minorities, women and environmental issues, that reflects concern for public image	Pearce & David, 1987; Rarick & Vitton, 1995; Collins & Porras, 1996; Miller & Dess, 1996; Waddock & Graves, 1997
Statement of the organization philosophy such as basic beliefs, values, aspirations, and ethical priorities	Want, 1986; Pearce & David, 1987; Freeman & Gilbert, 1988; Campbell & Yeung, 1991; Ireland & Hitt, 1992; Rarick & Vitton, 1995; Miller & Dess, 1996
Concern for the organization's Employees	Carrol el al., 1987; Miller & Dess, 1996; Waddock & Graves, 1997
Self-concept that points out the distinctive competence or major competitive advantage of the organization in comparison with its rivals	Drucker, 1974; Pearce & David 1987; Campbell & Yeung, 1991; klemm et al. 1991; Ireland & Hitt, 1992; Rarick & Vitton, 1995; Miller & Dess, 1996; David, 2005
Clarity of a mission statement in the sense that it is broad in scope but neither overly general and detailed nor excessively specific	McGinnis, 1981; Waddock & Graves, 1997
Length of a mission statement should not exceed two hundreds words	Steiner, 1979; David, 2005

Organizations develop a mission statement for a number of reasons. According to King and Cleland (1979), the mission statement provides a standard for allocating resources, facilitates the transition of objectives into a work structure, and specifies unanimous organizational purposes that are translated into objectives for standard performance. Strategic management literature has emphasized the mission statement because of its ability to direct organizations to effective organizational performance. Drucker (1974) and Bart and Baetz (1998) proposed that the development of a mission statement is a big step toward management effectiveness and that there is a positive relationship between mission statements and organizational performance. Wilson (1992) found that organizations with mission statements (versus those without) achieved a 50% increase in organizational effectiveness and doubled the chances that their employees will follow the direction and priorities established for implementation. Echoing similar results, a *Business Week* study in 1994 showed that organizations with mission statements had average return on shareholder equity of 16.1%, in comparison with 9.7% for organizations without mission statements. Alternatively, another perspective revealed that firms create and publicize the mission statement just because they are expected to have one due to its popularity or as a result of institutional pressures (Peyrefitte & David, 2006). Peyrefitte and David also argued that previous empirical studies on the contents of mission statements are still inadequate and conflicting despite the compatibility observed in definitions of the mission statement. However, considering the mission statement as the most publicized document stating organizational strategic plans has made the process of crafting a sound mission statement challenging for many organizations (Cochran et al., 2008).

Although many research studies have subscribed to the view that having mission statements is positively correlated to organizational performance, much of the management literature on this topic has questioned whether content affects performance. For instance, Bart et al. (2001) maintained that there is no direct relationship between the content of a mission statement and a company's financial performance. Instead, they noted a correlation between mission components and non-financial measures of performance such as satisfaction, mission-organizational alignment, behavior, and commitment. Commenting on this, Bartkus and Glassman (2008) pointed out that a common component of mission statements, such as stakeholder groups, has the least impact on organizations' action or decisions, whereas social issues like diversity and environment have the most significant impact on stakeholder management actions. Another opposing theory offered by Green and Medline (2003) disregards the completeness and quality of mission statements as the main characteristics that have a positive effect on organizational performance.

Other literature has suggested that the mission statement should be unique to an organization and a source of competitive advantage to differentiate it from others (David & David, 2003). This is consistent with Sufi and Lyon's (2003) findings which assume a total difference between every two organizations in terms of ownership, resources, and environmental circumstances, making a specific mission statement personal to each organization. Thus, it is critical for any organization to develop a clear vision for the creation of an effective mission statement since the success of that statement lies in its creativity and comprehensiveness (Matejka et al., 1993). Understanding why and for whom an organization is writing its mission statement is essential in drafting a good document. For example, Gregson (1992) suggested that basic steps for crafting a productive mission statement are, first, clearly defining the authentic purpose of the organization and reason for its existence. Second, the organization must establish a structure that facilitates policy making and goal setting, communicating the organizations' aim, philosophy, and values to all stakeholders and influencing and driving organizational culture. Research conducted by Bailey (1996) also affirmed the need to create a *measurable* mission statement by focusing attention on answering two critical questions: What corporate goals need to be achieved and how can the organization measure their accomplishment? His research suggested that to create measurable objectives, organizations must first scan their internal environment (competencies, skills, capabilities, competitive advantages) and external environment (competitors, customers, suppliers, employees, economy, technology, government regulations, and society) before measuring the comprehension, relevance, and reliability of their mission and objectives.

Several approaches to crafting and revising mission statements have been developed in the management literature. For example, Wickham (1997) proposed a framework consisting of five stages in crafting a sound mission statement. Among them is a stage called *operations* where the author suggested involving management in brainstorming sessions about the business, employees, customers, competitors, and society to arrive at ideas for the mission statement. Furthermore, the organization's internal and external stakeholders are roped in at that stage and their concerns are discussed to resolve any potential or existing conflicts and to better accommodate their interests.

Similarly, Cochran et al. (2008) suggested another framework for developing an effective mission statement based on four stages of analysis: orientation, components, communication, and applicability analyses. In their research to examine and identify the nine components of the mission statement, Peyrefitte and David (2006) concluded that some firms are confronted with institutional forces or demands which in turn stimulate mission statement content. Thus, they suggested that mission statement components are similar across industries and within industries. However, Pearce (1982) showed that three elements of a mission statement are vital for inclusion: product or service, market, and technology. The study revealed that a firm's mission statement should indicate its aim toward survival and continuity as a going concern. Furthermore, according to the author, the company's philosophy or creed statement is a significant source for developing the mission statement. On the other hand, Pearce and David (1987) argued that successfully performing firms have *comprehensive* mission statements containing nine essential components, as follows: specification of target customers and markets, identification of principal products and/or services, identification of geographic domain (i.e., where the company competes), identification of core technology used, expression of commitment to growth, survival, and profitability, specification of key elements of the company philosophy (i.e., its basic beliefs, values, aspirations, philosophical priorities), identification of the company's self-concept (i.e., the firm's view of itself and its competitive strengths), and identification of the firm's desired public image.

David & David (2003) stated that a mission statement should not be too lengthy or too short, should not contain numbers or percentages, and should not contain goals or strategies as they will create distractions for the reader. Furthermore, the study emphasized the importance of amending the mission statement to allow it to encompass all the essential elements. To keep the mission statement relevant and realistic, any parts of the statement that conflict with reality should be removed, and the *SMART* rule should be applied to keep the mission statement Specific, Measurable, Attainable, Relevant, and Trackable. On the other hand, Stone (1996) specified seven main characteristics for a successful mission statement: clearly articulated, relevant, current, written in a positive/inspiring tone, unique to the organization, enduring, and, finally, adapted to the target audience.

Pearce and David (1987) concluded that mission statements of higher performing large companies are more comprehensive than those of less successful firms. However, commenting on this, O'Gorman and Doran (1999) found that the mission statements of high-growth companies did not include the eight desired components suggested by Pearce and David (1987) when compared to low-performing firms. Hence, the comprehensiveness of the mission statement does not correlate to small and medium-sized enterprises' (SMEs') performance and the contradiction between the two studies may be due to many underlying reasons, as argued by O'Gorman and Doran (1999).

Green and Medlin's (2003) study showed no positive relationship between an organization's performance and its mission statement, despite the findings that some specific characteristics of a mission statement may be selectively related to higher levels of performance. On the other hand, Bart et al. (2001) investigated the relationship between mission rationales and content and argued that the purpose of a mission statement is driven by its content. The researchers defined two motives leading to the creation of mission statements. First, there is no reason for mission creation; it simply results from a need. Second, mission creation is anchored to clear motives. However, the study findings supported the second view and stated that how clear managers are about their motives in creating a mission statement ultimately determines the statement's final composition (i.e., the ends and means specified in the mission).

Bartkus and Glassman (2008) questioned the notion of practicing what is declared in companies' mission statement regarding various stakeholders. Commenting on this, Verma (2010) revealed the importance of the theory of reasoned action (TRA). With this theory in mind, he proposed rational thinking when writing a mission statement because mission statement ingredients are essential in influencing employee behavior.

METHODOLOGY

The sample was drawn from 45 firms listed in the Muscat Securities Market (MSM) and was categorized on the basis of industry type. Using publicly quoted corporations facilitated access to detailed corporate information, which was important for this research.

The model applied in this research tested how mission statements are crafted and communicated. The contents of such statements were reviewed and ranked using Pearce and David's (1987) model that employs nine components in assessing a mission statement. To record the overall score of components in each group, three scores were independently placed to examine each document and assign values where 0 means the statement does not include the component, 1 means the statement includes the component in vague terms, and 2 means the component is clearly expressed in the statement text. Weighted average score was used to compare a company's mission statement with that of its peers in the same industry.

In contrast, the communication analysis focused on measuring connotative meaning of selected mission statements as part of the content analysis for developing such statements. Therefore, the Fog index was used to measure the readability level of each mission statement for companies in each sector individually; then the average score was taken per group communication analysis with applied denotative and connotative meanings. The Fog index is commonly used to confirm that text can be read easily by the intended audience (Liu, 2013; Bargate, 2012; Hatcher & Colter, 2007).

Corporate websites were the core instrument employed for data collection in this study. Selected companies were categorized into seven groups based on industry type, as described below:

- Financial service (including banking and purely finance companies)
- Food and beverages
- Industrial manufacturing
- General investments
- Mining, metal, oil and gas (non-renewable natural resources)
- Utilities (power, telecom, billing services)
- Infrastructure and human services (education, healthcare, transport)

ANALYSIS AND DISCUSSION

Table-2 (Appendix) summarizes the results of all the 45 companies. As indicated by the assigned three ratings, financial service companies scored higher than the other six industries on four of the nine recommended components of the mission statement. Financial service firms had a higher overall average score on coverage of components than the other six industry types, and they were more likely than other industries to include the four components of *customers*, *philosophy*, *public image*, and *employees*.

However, note that the average score of the highest rated industry is a mere 0.9841. While a 1 average would denote minimal (vague) inclusion of the respective component, financial service firms scored less than 0.5555 on one component only. This suggests that the mission statement of the majority of the firms operating in the financial service sector includes eight of the nine components. Overall, even though their statements were the best compared to the other six industry groups, financial service firms have not done a good job in specifying the geographic boundaries of their operations. They scored the lowest among the seven groups tested on this particular component and this is consistent with the average score on the component of *customer* representing vague terms. Targeting customers without clear, implemented segmentation strategies results in financial service firms in Oman neglecting the importance of providing specific descriptions to their target customers and considering geographic factors to segment any niche customer groups when crafting their mission statements.

Food and beverage firms, with an average of 0.9505, ranked next to financial service firms but had the highest score for the *geographic markets* component among the eight industry groups. They also scored 1.8888 on the philosophy component, which means an extraordinary consideration of their values, ethics, and beliefs. However, they were not maintaining a good track record on *technology* and *concern* *for growth/survival*, with scores of 0.3333 and 0.4444, respectively. This finding raises question marks on research and development (R&D) strategies in this industry that is quite mature.

The general investment industry group maintained a score of 1.4 on four components, of which three had the highest scores in the seven tested groups. Those three components were *product/service*, *distinctive competence*, and *concern for survival/growth*. It should not be unusual for the sample companies in this particular group to achieve a remarkable score on the component *concern for growth/survival* as the nature of this industry is based on market expectations and projected return on invested resources. However, these companies did not include the *technology* and *employees* components in their statements. Note that the average value scores among investment firms were all above 0.5555 in all but two components, which indicates that mission statements of firms belonging to that group are satisfactory overall.

With an overall average value score of 0.8666, natural resources firms did slightly worse than general investment firms. *Customers* and *geographic market* components rest at the bottom of the ranked scores for this group with values of 0.4 and 0.6, respectively. In contrast, the group had the highest score among all the groups in the *technology* component. Furthermore, seven of the nine components in their mission statements scored not less than 0.8, meaning that the sample firms in that group occupy a median position among the other six groups.

Firms operating in the industrial manufacturing sector scored well in three components: *product/service, philosophy,* and *public image*. In contrast, the other six components received scores less than 0.716, which is the group's overall average score value, revealing a relatively poor inclusion of the nine components in mission statements for the sample firms in that group. Firms grouped in healthcare, education, and transport industries had a slightly lower overall average score than those in the industrial manufacturing group. It is important to point out that statements of firms in this sector had the highest score for the *inclusion of employees* among the seven groups. On the other hand, firms in the above group were not doing well at all in considering *technology* or *concern for growth/survival*.

Utilities, scoring just 0.5555 overall, had the fewest comprehensive mission statements among the seven industry groups sampled in this study. They scored less than 0.5555 in five components out of the nine recommended, suggesting that mission statements of most of the sample utilities firms did not include the following components: *technology*, *customers*, *product/service*, *geographic market*, and *distinctive competence*. However, the average value scores among all utilities firms ranged from 0.8 to 1.2 on the other four components, which indicates that utilities mission statements are weak overall.

The second part of the analysis discusses the outcome of the Fog index used to measure the readability level for mission statements of the sample companies in the seven industry groups. Table 4 (Appendix) summarizes the Fog index for sample firms in each industry group and provides the average value for that index per group.

The Fog index scores for the sample firms in the financial service group lie outside the ideal score of 7 to 8. Four companies scored below 7 while the other two scored above 12, suggesting that the level of readability for mission statements in this group is either very low or very difficult. However, the overall average value of the Fog index for financial service firms is 8.435, which represents a good readability level.

Firms operating in the food and beverage sectors had an ideal score on the Fog index on average and 10.4 as the maximum score recorded for sample firms in this group. This requires an education level of 7.4 years, on average, for a specific reader to fully understand the language used to craft mission statements for food and beverage companies. The utilities industry group and the metal, mining, and oil and gas group fell in the same category as the food and beverage group, with average Fog index values of 7.7 and 8.6 each.

Only one firm in the investment industry group scored near the ideal range on the Fog index, while others deviated up and down that range. However, the overall average value for all firms in that sample fit slightly above the ideal range, with a score of 8.96, revealing a good readability level on average for the mission statements. In contrast, the overall average score on the Fog index for companies in both the industrial manufacturing group and the group containing firms operating in the healthcare, education, and transport sectors were 10.5 and 11, respectively. This reflects that mission statements for companies in these two groups are hard for most people to understand, thus implying a need to edit those statements.

CONCLUSION

A properly designed mission statement that comprises all the components discussed in this study has the potential to become one of the most important strategic tools for a firm in achieving its goals. This study investigated components of mission statements of 45 companies in Oman and measured their readability level. The sample firms in our study generally did not include needed components in their mission statements.

The one component the sample firms most often included was *philosophy*. This finding is positive as it suggests that companies use their mission statements to express their values, beliefs, and business ethics to stakeholders. However, the analysis revealed that the component of *product/service* is the only other component included, which means that the companies studied basically did not include the other seven components: *technology, geographic market, employees, distinctive competence, concerns for growth/survival, public image,* and *customers*. Actually, this is a disturbing finding since constituencies or stakeholders gain no insight into the firms from reading their mission statements. The study found that the component of *technology* received the lowest rating of all components, as indicated by the 0.3888 average rating. This finding shed light on the importance of assessing levels of technology employment in the strategic planning of key industries forming the backbone of the Omani private sector.

A medium readability index was recorded for mission statements of companies working in the financial service, food and beverage, general investment, utilities, and natural resources sectors. Their average readership ranged from 7.5 to 9, indicating a clear and concise writing style. On the other hand, mission statements for sample companies in industrial manufacturing, healthcare, education, and transport had an exceptionally high readability index exceeding 10.5. This high score implies the need to review and rewrite the mission statements by reducing sentence length and the use of multiple-syllable words.

PRACTICAL IMPLICATIONS

The results discussed in this paper offer practitioners insightful guidance for drafting mission statements. To begin with, rational mission statements must contain components that address the interests of both internal and external stakeholders. The overall lack of completeness in mission statements reported among the sample firms in this research may serve to alert and caution planners in those business sectors to improve their documents. The modification process implies forming a facilitator team or special committee that is fully aware of the organization's business model, strategic objectives, the market structure, and all other general aspects affecting the business environment. Such a process is expected to enhance the effectiveness of communication and commitment among employees' at all organizational levels. Finally, regarding the readability of the mission statement, which is obtained through the Fog index, the mission statement committee should involve managers in evaluating mission statements so that words that describe the feelings of management can be incorporated in the statements.

Sample firms studied in this research were grouped using a broad definition of industries where wide gray areas may exist between firms gathered in single sectors for the sake of having groups of logical sizes. It is still not clear-cut that a group of five sample firms from indirectly related industries can provide consistent indicators applicable to all industries forming a particular business cluster. Therefore, additional evidence on the industry classification developed in this study is required to further substantiate these results.

Moreover, mission statements of the sample firms were quoted directly from corporate websites without being edited; as a result, the study may also include documents such as vision statements. Additionally, the number of words in the mission statements of the sample companies is far below the 100 words used on average to test the readability level with the Fog index. We encourage further research that fills identified gaps in this research that will also include new components that may be needed in the 21st century.

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APPENDIX

Table-2. Content Analysis of Mission Statements - Sector wise
Financial Services Sector

Nine Components of Mission Statement		Company Name						Average Score
		BANK MUSCAT	OMAN INTL. BANK	NATIONAL BANK OF OMAN	UNITED FINANCE	NATIONAL FINANCE	MUSCAT FINANCE	
1	Customers	1	1	1	2	1	0	1
2	Product/ Services	0	2	1	2	0	2	1.1666
3	Geographic Market	0	1	0	0	0	0	0.1666
4	Technology	0	1	2	0	0	2	0.8333
5	Philosophy	1	2	2	2	2	1	1.6666
6	Public Image	0	2	2	0	2	1	1.1666
7	Employees	0	0	2	2	2	0	1
8	Distinctive Competence	0	2	2	1	1	0	1
9	Concern for Growth/ Survival	1	0	0	2	2	0	0.8333
Total Score		3	11	12	11	10	6	

Food & Beverage Sector

Nine Components of Mission Statement		Company Name									
		ASAFFA FOOD	DHOFAR BEVERAGE & FOOD STUFF	GULF MUSHROOM PRODUCTS	DHOFAR CATTLE FEED	OMAN INTL. FOODS	NATL BISCUIT IND.	OMAN FISHERIES	OMAN REFRESH MENT	SALALAH MILLS	AVERAGE SCORE
1	Customers	1	2	1	2	0	1	0	1	0	0.8888
2	Product/ Services	1	2	2	2	0	0	1	0	2	1.1111
3	Geographic Market	2	2	0	2	0	2	0	0	0	0.8888
4	Technology	0	0	0	0	0	2	0	1	0	0.3333
5	Philosophy	2	2	2	2	1	2	2	2	2	1.8888
6	Public Image	2	2	1	2	0	0	1	2	0	1.1111
7	Employees	0	0	0	2	0	2	0	2	1	0.7777
8	Distinctive Competence	1	1	1	2	0	2	1	1	1	1.1111
9	Concern for Growth/ Survival	2	2	0	0	0	0	0	0	0	0.4444
	Total Score	11	13	7	14	1	11	5	9	6	

Industrial Manufacturing Sector

Nine Components of Mission Statement		Company Name									Average Score
		OMAN CABLES IND.	OMAN FIBER OPTICS	OMAN CEMENT	GULF PLASTIC IND.	RAYSUT CEMENT	GULF INT. CHEMICALS	AL JAZEERA STEEL PRODUCT COMPANY	VOLTAMP ENERGY	ALHASSAN ENG.	
1	Customers	0	0	0	0	0	0	0	2	2	0.4444
2	Product/ Services	0	2	0	2	0	2	2	2	2	1.333
3	Geographic Market	0	2	0	0	0	0	1	2	0	0.5555
4	Technology	1	0	2	0	0	2	0	0	0	0.5555
5	Philosophy	2	2	2	1	2	2	1	0	0	1.3333
6	Public Image	0	2	2	0	2	0	0	0	2	0.8888
7	Employees	0	1	2	0	2	0	0	0	0	0.5555
8	Distinctive Competence	0	0	2	0	1	2	0	0	1	0.6666
9	Concern for Growth/ Survival	0	0	1	0	0	0	0	0	0	0.1111
	Total Score	3	9	11	3	7	6	4	6	7	

Power & Utilities, Telecom, and Related sectors

Nine Components of Mission Statement		Company Name					Average Score
		ACWA POWER BARKA	SOHAR POWER	AL KAMIL POWER	OIFC	NAWRAS	
1	Customers	0	0	0	1	0	0.2000
2	Product/ Services	2	2	0	0	1	1.0000
3	Geographic Market	0	0	2	0	0	0.4000
4	Technology	0	0	0	0	0	0.0000
5	Philosophy	0	2	0	2	2	1.2000
6	Public Image	0	2	2	0	0	0.8000
7	Employees	0	0	0	1	0	0.2000
8	Distinctive Competence	0	0	0	1	0	0.2000
9	Concern for Growth/ Survival	1	0	2	2	0	1.0000
Total Score		3	6	6	7	3	

Investment Sector
Metal, Mining, Oil & Gas

Nine Components of Mission Statement		Company Name					Average Score
		NAT. ALUMINIUM PRODUCTS	OMAN CHROMITE	OMAN OIL MARKETING	NATIONA L GAS	Al MAHA PETROLEUM PRODUCTS MARKETING	
1	Customers	0	0	1	0	1	0.4000
2	Product/ Services	0	2	0	1	2	1.0000
3	Geographic Market	0	1	0	0	2	0.6000
4	Technology	0	0	1	2	2	1.0000
5	Philosophy	0	0	2	2	2	1.2000
6	Public Image	0	0	2	2	2	1.2000
7	Employees	0	0	0	2	2	0.8000
8	Distinctive Competence	1	0	1	1	1	0.8000
9	Concern for Growth/ Survival	2	0	1	0	1	0.8000
Total Score		3	3	8	10	15	

Investment Sector

Nine Components of Mission Statement		Company Name					Average Score
		AL ANWAR HOLDING	AL BATINAH DEV. & INV. HOLDING	AL SHARQIA INV. HOLDING	OHI	OMINVEST	
1	Customers	1	1	0	1	1	0.8000
2	Product/ Services	2	2	1	0	2	1.4000
3	Geographic Market	0	0	2	0	2	0.8000
4	Technology	0	0	0	0	0	0.0000
5	Philosophy	2	2	1	2	0	1.4000
6	Public Image	0	0	2	2	0	0.8000
7	Employees	0	0	0	1	0	0.2000
8	Distinctive Competence	2	2	0	0	2	1.4000
9	Concern for Growth/ Survival	2	2	0	0	2	1.4000
Total Score		9	9	6	6	9	

Education, Healthcare, and Transport Sectors

Nine Components of Mission Statement		Company Name						Average Score
		DHOFAR UNIVERSITY	MAJAN COLLEGE	OMAN EDUCATION & TRAINING INV.	NAT. PHARMACEUTICAL IND	PORT SER. CORP	SALALAH PORT SERVICES	
1	Customers	0	2	2	0	0	0	0.6666
2	Product/ Services	2	2	2	1	0	0	1.1666
3	Geographic Market	0	0	2	2	0	0	0.6666
4	Technology	0	0	0	0	0	0	0.0000
5	Philosophy	2	2	2	0	0	2	1.3333
6	Public Image	0	2	2	0	2	2	0.6666
7	Employees	0	2	0	0	2	2	1.0000
8	Distinctive Competence	1	1	2	0	0	0	0.6666
9	Concern for Growth/ Survival	0	0	0	0	0	0	0.0000
Total Score		5	11	12	3	4	6	

Table-3. Mission statement content analysis across seven industries

Component	Financial services (n=6)	Food & Beverages (n=9)	Industrial Manufacturing (n= 9)	General Investments (n= 5)	Mining, Metal, Oil & Gas (n= 5)	Utilities (n= 5)	Healthcare, Education & Transport (n= 6)	Average (n= 45)
Customers	1.0000	0.8888	0.4444	0.8000	0.4000	0.2000	0.6666	0.6190
Product/ Services	1.1666	1.1111	1.3333	1.4000	1.0000	1.0000	1.1666	1.1682
Geographic Market	0.1666	0.8888	0.5555	0.8000	0.6000	0.4000	0.6666	0.5825
Technology	0.8333	0.3333	0.5555	0.0000	1.0000	0.0000	0.0000	0.3888
Philosophy	1.6666	1.8888	1.3333	1.4000	1.2000	1.2000	1.3333	1.4317
Public Image	1.1666	1.1111	0.8888	0.8000	1.2000	0.8000	0.6666	0.9475
Employees	1.0000	0.7777	0.5555	0.2000	0.8000	0.2000	1.0000	0.6476
Distinctive Competence	1.0000	1.1111	0.6666	1.4000	0.8000	0.2000	0.6666	0.8349
Concern for Growth/ Survival	0.8333	0.4444	0.1111	1.4000	0.8000	1.0000	0.000	0.6555
AVERAGE	0.9814	0.9505	0.7160	0.9111	0.8666	0.5555	0.6851	

Note: Scale is
- 0 = statement does not include the component
- 1 = statement include the component in vague terms
- 2 = statement includes the component in specific terms

The table give average values for each component within each group (industry)
Values in bold are the highest for each component and firm type

Table-4. Determining Mission Statement's Readability Level

Measuring Fog Index
Financial Services Sector

Readability Level	Bank Muscat	Oman International Bank	National Bank of Oman	United Finance	National Finance	Muscat Finance
▪ Number of Words	13	50	58	35	69	29
▪ Number of Sentences	1	1	2	5	7	3
▪ Average Number of Words per Sentences	13	50	29	7	9.85	9.66
▪ Number of Hard Words	0	0	1	1	0	1
▪ Percent of Hard Words	0	0	1.72	2.85	0	3.44
▪ Sum of Word Average and Hard Words Percent	13	50	30.72	9.85	9.85	13.1
Fog Index	5.2	20	12.28	3.94	3.94	5.24

Food and Beverage Sector

Readability Level	Asaffa Foods	Dhofar Beverage & Food Stuff	Gulf Mushroom Products	Dhofar Cattle Feed	Oman Intl. Food	National Biscuit Industries	Oman Fisheries	Oman Refreshments	Salalah Mills
▪ Number of Words	85	106	34	125	10	9	26	44	35
▪ Number of Sentences	5	4	2	6	1	1	1	2	2
▪ Average Number of Words per Sentences	17	26.5	17	20.83	10	9	26	22	17.5
▪ Number of Hard Words	0	1	0	0	0	0	0	1	1
▪ Hard Words Percent	0	0.94	0	0	0	0	0	2.27	2.85
▪ Sum of Word Average and Hard Words Percent	17	24.91	17	20.83	10	9	26	24.27	20.35
Fog Index	6.8	9.96	6.8	8.33	4	3.6	10.4	9.7	8.14

Industrial Manufacturing Sector

Readability Level	Oman Cables Industry	Oman Fiber Optics	Oman Cement	Gulf Plastic Industries	Raysut Cement	Gulf Int. Chemicals	Al Jazeera Steel Product Company	Voltamp Energy	Al Hassan Engineering
▪ Number of Words	27	22	39	19	92	157	42	37	48
▪ Number of Sentences	1	1	8	1	6	8	1	1	1
▪ Average Number of Words per Sentences	27	22	4.87	19	15.33	19.62	42	37	48
▪ Number of Hard Words	0	0	0	0	0	5	0	0	0
▪ Hard Words Percent	0	0	0	0	0	3.18	0	0	0
▪ Sum of Word Average and Hard Words Percent	27	22	4.87	19	15.33	22.80	42	37	48
Fog Index	10.8	8.8	1.94	7.6	6.13	9.12	16.8	14.8	19.2

Utilities & Power, Telecom, and relevant Sector

Readability Level	ACWA Power Barka	Sohar Power	Al Kamil Power	OIFC	NAWRAS
▪ Number of Words	19	14	26	30	21
▪ Number of Sentences	1	1	2	1	1
▪ Average Number of Words per Sentences	19	14	13	30	21
▪ Number of Hard Words	0	1	1	0	0
▪ Hard Word Percent	0	7.14	3.84	0	0
▪ Sum of Word Average and Hard Words Percent	19	21.14	16.84	30	21
Fog Index	7.6	8.45	6.73	12	8.4

Investment Sector

Readability Level	Al Anwar Holding	Al Batinah Dev. & Inv. Holding	Al Sharqia Inv. Holding	OHI	OMINVEST
▪ Number of Words	42	48	22	18	27
▪ Number of Sentences	4	1	1	4	1
▪ Average Number of Words per Sentences	10.5	48	22	4.5	27
▪ Number of Hard Words	0	0	0	0	0
▪ Hard Word Percent	0	0	0	0	0
▪ Sum of Word Average and Hard Words Percent	10.5	48	22	4.5	27
Fog Index	4.2	19.2	8.8	1.8	10.8

Metal, Mining, Oil & Gas Sector

Readability Level	National Aluminum Products	Oman Chromite	Oman Oil Marketing	National Gas	Al Maha Petroleum Products Marketing
▪ Number of Words	80	7	31	84	114
▪ Number of Sentences	3	1	1	5	8
▪ Average Number of Words per Sentences	26.66	7	31	16.8	14.25
▪ Number of Hard Words	0	0	1	0	0
▪ Hard Words Percent	0	0	3.22	0	0
▪ Sum of Word Average and Hard Words Percent	26.66	7	34.22	16.8	12.25
Fog Index	10.66	2.8	13.68	6.72	4.9

Education, Healthcare, & Transport Sectors

Readability Level	Dhofar University	Majan College	Oman Education & Training Inv.	National Pharmaceutical Ind.	Port Services Co.	Salalah Port Services
▪ Number of Words	30	75	49	20	37	56
▪ Number of Sentences	1	6	1	1	1	6
▪ Average Number of Words per Sentences	30	12.5	49	20	37	9.33
▪ Number of Hard Words	0	0	0	1	1	0
▪ Hard Words Percent	0	0	0	5	2.7	0
▪ Sum of Word Average and Hard Words Percent	30	12.5	49	25	39.7	9.33
Fog Index	12	5	19.6	10	15.8	3.7

Table-5. Fog Index levels for sample firms in seven industry groups

Industry Group	Financial Services	Food & Beverages	General Investment	Industrial Manufacturing	Metal, Mining, Oil & Gas	Utilities	Healthcare, Education, & Transport
Fog Index							
1	3.94	3.6	1.8	1.94	2.8	6.73	3.7
2	3.94	4	4.2	6.13	4.9	7.6	5
3	5.2	6.8	8.8	7.6	6.72	8.4	10
4	5.24	6.8	10.8	8.8	10.66	8.45	12
5	12.28	8.14	19.2	9.12	13.68	12	15.8
6	20	8.33		10.8			19.6
7		9.7		14.8			
8		9.96		16.8			
9		10.4		19.2			
Average Value	8.435	7.5255	8.96	10.5766	7.752	8.636	11.016

The Growth of Infrastructure Investments by Institutions

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Infrastructure, physical assets like airports, bridges, and railroads is a fairly new asset class that has emerged over the past few years. Institutional investors such as mutual funds and pensions have been adding this asset class to their portfolios slowly, but increasingly. This paper examines the growth of these investments in institutional portfolios over the past several years.

INFRASTRUCTURE DEFINED

In the United States, it has become common for politicians, economists, and others to call for increased spending on infrastructure. A strong infrastructure is required for the foundation of a sound economy. Without, airports, rails, bridges, and other key elements of infrastructure a country's economy would stall.

Infrastructure assets provide essential services to society. Services that are critical to daily life and daily commerce. They are generally thought of in terms of their physical characteristics. It's easy to imagine some of the modern-day marvels we see – bridges, dams, and levees, for example. The investing community divides infrastructure into two categories: economic and social. Economic infrastructure assets are things like bridges, roads, seaports, and airports. They can also be in industries like electricity and waste water treatment. And an increasingly important element to our economy and our daily lives – telecommunications. Social infrastructure assets include hospitals, schools, and prisons.

Economic infrastructure assets can be either regulated or unregulated. Some create revenue through usage fees. A prime example is the toll revenue from a toll road. Some economic infrastructure assets, like cell phone towers, may receive revenue from contracts with service providers.

The following table shows the diversity of infrastructure investments across industry sector.

TABLE 1

Economic			**Social**
Communications	**Energy**	**Transportation**	
Broadcast antennae	Electricity	Airports	Courthouse
Fiber options	Gas/Oil	Bridges	Hospital
Cell phone towers	Hydro power	Roads	Prison

ORIGINS

At the beginning of the 1980s, the British government owned many of its country's major industries. This included steel production, the oil industry, airlines, automobile manufacturers and other industries. During the 1980s, the British government began selling off these assets. The privatization of these industries continued and by the end of the decade, virtually all of them had been privatized.

In addition to full-on privatization, the British government also began a series of public-private partnerships. The objective of these partnerships was to create an incentive for the private sector to build and operate some of the functions of infrastructure that had been exclusively borne by the government. Public-private partnerships have remained popular throughout Europe and in other parts of the world. The trend has been slow to catch on in the United States where public infrastructure projects are still financed primarily by taxes or the issuing of municipal bonds.

Infrastructure investments, by their very nature – roads, bridges, airports, and telecommunications – are huge. On the other hand, they offer returns almost indefinitely or at least for the very long term. This, in part, has made them attractive investments for long-term targeted funds such as pensions and other retirement funds, the bailiwick of institutions.

Countries outside the United States continue to lead the way in these infrastructure investment opportunities. Former socialist countries continue, in general, on a path of privatization. Many major European infrastructure industries are publicly traded companies. Deutsche Bahn, the German national rail company, is a prime example. Many European airports are structured similarly. Some estimates put the total infrastructure market at $20 trillion.[1]

HOW INFRASTRUCTURE ASSETS WORK

Infrastructure investments are called greenfield when they require new construction. Brownfield investments are mature, well-established facilities with stable cash flows. The transactions of infrastructure generally fall into one of three types: privatization, private transactions, and public-private partnerships.

Privatization is when the government sells its own infrastructure assets to a private investor. Private transactions are simply when two private sector parties trade an infrastructure asset through a sale or other transaction. Finally, public-private partnerships are when the government attempts to get the financing for an infrastructure asset from the private sector. And then may also look to the private sector to operate and maintain the investment.

Public-private partnerships appear to be gaining in importance among infrastructure investments. An example of such a partnership in the United States is when the City of Chicago contracted with Cintra Corporation to run the operations of the Chicago Skyway. The City of Chicago retains ownership of the underlying asset, but Cintra will be responsible for maintenance and other expenses. Of course, Cintra will retain the majority of the revenue from tolls and other sales.

Institutional investors gain access to infrastructure investments in a number of ways:

Open-end Funds

This is an investment vehicle where several different investors pool their money into a fund.

Limited Partnerships (Closed-end funds)

These are similar to open-end funds except that they have a fixed maturity date when the investment ends.

Direct Investment

This is less common, but there are times where a private firm may venture to build the resource itself. And then charge a usage fee. An example - Municipality owns land. Private Company builds public golf course on Municipal land. Private company pays Municipality a lease payment, but receives revenue from golf course fees. In this case, the Private company has borne virtually all of the risk of the project.

NEED FOR INFRASTRUCTURE

Infrastructure is essential to ensure the daily free flow of goods and commerce. It also contributes to the quality of life and well-being of citizens. As the economies of the world continue to develop, enormous investments in things like rail, airports, schools, water delivery, and other essential assets are needed. This growth provides an ample opportunity for the private sector to invest. Some estimates put the additional amount spent on inventory in the next 20 years at nearly $100 trillion.[2]

The United States is among the countries requiring significant additional investment in infrastructure assets. In 2009, the American Society of Civil Engineers gave the condition of the United States infrastructure near failing grades across the board. This included the condition of existing infrastructure as well as the projected future needs.[3]

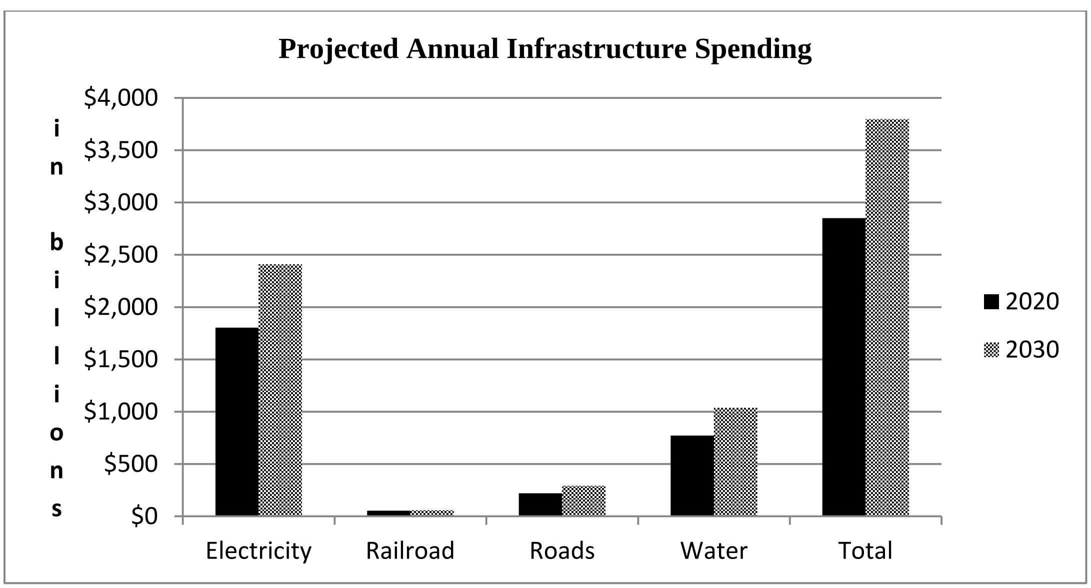
TABLE 2

Sector (not all sectors/grades shown)	ASCE Report Card 2009
Bridges	C
Dams	D
Levees	D-
Roads	D-
Overall	**D**

While governments recognize the need for increase infrastructure spending, they are hamstrung with pressures to reduce taxes, spending and debt. As a result, governments have been looking to the private sector to ultimately finance this spending. This again, creates substantial long-term investing opportunities.

The chart below shows the expected annual required expenditure on a few infrastructure categories.

CHART 1



PERFORMANCE OF INFRASTRUCTURE INVESTMENTS

Institutional firms generally measure their investment performance against a benchmark. A large-cap stock portfolio might be measured against the S&P 500 index. Investments in small cap stocks might be measured against the Wilshire 5000. A problem institutions face when considering infrastructure investments is choosing an appropriate benchmark. Because of the diversity of these investments, there is no industry standard benchmark. It can also be hard to obtain information about the performance of infrastructure investments since they are not generally publicly traded.

A measure that is sometimes used as a benchmark for infrastructure investments is the Dow Jones Brookfield index.

WHY INFRASTRUCTURE?

If we agree to use the DJB index as our proxy for the performance of infrastructure investments, we see that over the past 8 years the average annual return has been 14.87%. This compares to only 8.03% for the Wilshire index. This performance shows that in addition to simply diversifying a portfolio, adding infrastructure to a portfolio can actually increase its value.

In addition to numerical performance, there are other solid reasons to invest in infrastructure assets. First, the glaring need worldwide for infrastructure projects. Dams in China, bridges in Vietnam, railroads between Minneapolis and Chicago. The list goes on. There should continue to be ample opportunity.

Second, institutional investors are by their very nature long-term investors. Infrastructure, by its nature is a long-term investment. It's a perfect match.

CONCLUSION

Infrastructure investments are becoming more and more commonplace in the portfolios of institutional investors. They offer diversification, performance, and huge potential growth opportunities. They are attractive to institutions because of their focus on the long-term. With the explosion of burgeoning economies all over the world and the addition of more established economies needing to rebuild, infrastructure investments are likely here to stay for a long time to come. Like the structures themselves.

NOTES/REFERENCES

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