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METAPHORS IMPACT DAILY DECISIONS BY MANAGERS AND LEADERS

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ABSTRACT

In a world filled with complexities, people have turned to metaphors to provide a meaningful way to comprehend and communicate what they experience. In recent business literature, metaphors are used to describe organizations, and even guide the diagnosis of problems, because of their power to draw attention particular aspects of real situations. Extensive literature exists promoting various metaphors in this role or reviewing the efficacy of their use. What has not been explored is whether people in organizations also use metaphors, often without conscious thought, in ways that influence their decisions. The assumption here is that metaphors operate like powerful paradigms that have associated values, beliefs, language, and actions. This research explores the following questions: Can metaphors and associated paradigms be identified? Can preferences for particular metaphors be measured using preferences for particular sets of values, beliefs, language and actions? In a sample of 176 students, the researcher was able to provide an answer of "yes" to both of the questions. People do have preferences for particular metaphors, even if they have not named them. Those preferences, through the associated values, beliefs, and actions, impact the practical decisions that are made in organizations.

JEL: M100

KEYWORDS: Business Administration, Management, Metaphors, Decision-Making

INTRODUCTION

In a world filled with complexities, people have turned to metaphors to provide a meaningful way to comprehend and communicate what they experience. Because metaphors have their own associated information, their use focuses attention on similarities between the metaphor and the real world. Other information about the real situation is often then ignored. This simplifies what needs to be understood about the actual situation. Metaphors have traditionally been used in literature; the most famous use may be Shakespeare's referring to *all the world's a stage*. In business, Adam Smith's *Invisible Hand* is one of the most commonly used metaphors. Because of their power to draw attention to particular aspects of real situations, in more recent business literature, metaphors are used to describe organizations, and even guide the diagnosis of problems. Extensive literature exists promoting various metaphors in this role or reviewing the efficacy of their use.

In this researcher's over 40 years of experience as a manager in organizations and organizational consultant, he has been struck by the consistent use of language that can be associated with metaphors. Organizations are often described as growing or dying. They "learn," or are "political," express "values," or have "finite capacity." These are all examples of statements made from particular metaphoric perspectives. Observations, such as these, become part of the fabric of thinking within organizations. But, like the air breathed, they are taken for granted rather than consciously considered.

What has not been explored in the literature is a practical reality that people in organizations use metaphors, most often without conscious thought, in ways that influence their decisions. In this use, metaphors operate like powerful paradigms that have associated values, beliefs, language, and actions. Is this statement true? If it is, can metaphors and associated paradigms be identified? Can preferences for particular metaphors be measured using preferences for particular sets of values, beliefs, language and actions? This research seeks to confirm whether metaphors in use do function as paradigms and whether preferences for particular metaphors can be identified. Participants have the opportunity to rank features of particular metaphors to reflect their metaphoric preferences.

LITERATURE REVIEW

The literature exploring the use of metaphors in organizations has rarely addressed the use of metaphors by people within organizations as they consider situations and make everyday decisions. This literature has focused on both proposing metaphors to help in understanding organizations and in validating the usefulness of such metaphors. Two classic books on the topic of metaphors in organizations were Lakoff and Johnson's Metaphors We Live By in 1980 and Morgan's Images of Organization in 1986. Both books have been updated with later editions, 2003 and 1998, respectively. Lakoff and Johnson observed, "We have seen that metaphor pervades our normal conceptual system. Because so many of the concepts that are important to us are either abstract or not clearly delineated in our experience (the emotions, ideas, time, etc.), we need to get a grasp on them by means of other concepts that we understand in clearer terms (spatial orientation, objects, etc.). This leads to metaphorical definition in our conceptual system." (Lakoff & Johnson, 2003, pg 115).

This basic premise is repeated in in Morgan's books (1986 & 1998) and in journal articles by authors such as, Pesqueux (1999), Davies, Chun and Rui (2001), and Steen (2002). A large proportion of the literature accepts this approach and proposes various metaphors to aid in the understanding of organizations and the roles of managers and leaders. In his original book, Morgan (1986) proposes eight metaphors to describe organizations. These range from the more concrete to the more abstract: machine, organism, brains, cultures, political systems, psychic prisons, flux and transformation, and instruments of domination. He discusses each of these in detail, including strengths and limitations, as tools for better understanding how people experience organizations.

Many authors use Morgan's and Lakoff and Johnson's works as reference points as they propose metaphors to better address particular organizational issues. For example, military and war metaphors were discussed by David and Graham (1997), Mutch (2006) and Whysall (2001). Sports metaphors were explored by David and Graham (1997) and Bokeno (2009). Dancing was the focus for Belasco (1990), Kanter (1989), Ropo and Sauer (2008), and Atkinson (2008). Four authors were exploring various aspects of knowledge management using metaphors: Rowe (2005), Koskinen (2005), Andriessen and Prusak (2006). Eppler (2006) explores visual metaphors. Career paths and development were explored by Lajoie(2005), Liedtka (2000), and Crowly-Henry (2012).

A number of authors focused their attention on using metaphors to help their undergraduate and graduate students better understand both management and organizational behavior. Taber (2007) has students identify metaphors to describe their own organizations. Luechauer and Shulman (1998) offered a set of animals for students to choose the one that most represents the culture of their organizations. Weick (2003) used metaphors to help students take a more creative view of the strategic process. May and Short (2003) thought of on-line education as gardening in cyberspace, while Gross and Hogler (2005) challenged the growing use of the consumer metaphor in management education.

Several authors chose to narrow their exploration of the use of metaphors to those they thought would be most helpful to consultants in better understanding the dynamics of their client organizations. Massey (2003) explored the more general use of metaphors as a consultant diagnostic tool. Denton (2003) described the use of metaphors as a tool in training in conflict management. Perren and Atkin (2000) presented how they used metaphors to change a client organization's management assumptions. Illes and Ritchie (1999) shared how they used metaphors to change the dynamics of a change process.

Additionally, the literature explored the use of metaphors as a communication tool within organizations. Stephens (1994) analyzed a series of speeches to see how metaphors were used. Monin and Monin (1997) examined how, linguistically, metaphors used by companies exaggerated particular aspects of the company, such as using a war metaphor for these businesses. Grisham (2006) sought to better understand how metaphors can help business leadership gain trust across cultural differences. Griffin (2008) probed how organizational development professionals use metaphors to influence change processes in their client organizations. Watkins (2010) analyzed how metaphors can be used to help companies tell a more effective story about their companies to both internal and external audiences.

The range of metaphors discussed in the literature is wide. Table #1 presents examples of the range of metaphors used. This variety demonstrates the very different perspectives possible using metaphors.

Table 1: Examples of Metaphors Presented in the Literature

Metaphors	Authors	Metaphors	Authors
Animals - Various	Oswick	Literary Drama	Monin
Boundaries	Dreachlin	Machine	Morgan
Brain	Morgan, Garud	Magic	Kaarst-Brown
Bridge	Muna	Meteorology	French
Candle	Muna	Military	Mutch
Culture	Morgan	Mosaic	Muna
Dance	Atkinson	Organism	Morgan
Design	Liedtka	Personification	Davies
Epic Stories	David	Physics	Behn
Factory	Mastacche	Place	Walck
Families	Rosenblat	Political Systems	Morgan
Flux & Transformation	Morgan	Process	Rowe
Helicopter	Muna	Psychic Prisons	Morgan
Iceberg	Muna	Sports	David, Bokeno
Instruments of Domination	Morgan	Transit Lounge	Muna
Integenerational Family	Rosenblat	Tripod	Muna
Iron Cage	Klagge	War	David, Whysell

Table #1 provides a summary of the many metaphors referenced in the literature. The first column contains the metaphors and the second column contains the names of the first authors who used the particular metaphors.

The literature on metaphors in organizations is focused on the analysis of organizations using various metaphors. Many researchers have proposed a variety of metaphors for use in this analysis. Several researchers have explored the teaching of particular metaphors to people within organizations to enable them to better complete analysis. What is more scarce in the literature is investigating what metaphors are already being used in organization, with or without conscious thought about the metaphor. Perren and Atkin (1997) thought that by identifying the metaphors owner-managers actually used might provide insights into their decision-making. They asked these individuals to identify which metaphors they use and accumulated a list of 85 metaphors. The authors concluded that the metaphors did impact decision-making. Gaddefors (2007) looked at the use of metaphors in the entrepreneurial process. They found that the metaphors used significantly impacted how entrepreneurial opportunities were identified. Wibeck (2012) examined how the choice between two metaphoric perspectives changed how people in an organization viewed their Management By Objectives process. Cobo, et al. (2012) examined how frequently Morgan's eight metaphors were evident in 61 Brazilian companies. They found that "organism" was most common while the least common metaphors were "political system" and "instrument of domination."

DATA AND METHODOLOGY

Research Approach

This research has been designed to build on the foundational work by Gareth Morgan, but rather than focus on metaphoric tools to be applied from outside of an organization, the research seeks to explore the more organic metaphors actually being used by the people of organizations. In this way, this research is most similar to the approach applied by Cobo, et al. That research used an existing 35 question survey that had participants rate, from strong presence in their organization to virtually no presence, each of the descriptors. Cluster analysis was used to rank the use of the machine, psychic prison, political system, instrument of domination, organism, brain, and flux and transformation metaphors. The authors considered Brain and Culture to be similar and were treated collectively.

Both the Cobo, et al., research and this research is founded on the assumption that metaphors in use do not have to be consciously identified by an individual in order for them to have influence. On this basis, the metaphors being used can be identified and named by the researchers. The data collected by the earlier research provided the information necessary for them to evaluate the metaphors being used.

The most significant difference between that approach and the one used here is in the approach to Morgan's metaphors. Here, the metaphors were assumed to be paradigms, as described by Kuhn (1996). Building on Kuhn and Barker (1993), paradigms contain a set of values, beliefs, assumptions, language, and behavior. The behaviors are those already worked out solutions to problems, as defined by a paradigm. Unique paradigm sets were developed from the ideas presented by Morgan in both editions of his book.

This researcher also made modifications in Morgan's list of metaphors. Acknowledging that Morgan described his metaphors as tools for gaining insights into organizations, his metaphors were assessed to estimate which ones would most likely be used by people within an organization and impact their behavioral choices. Psychic prisons, instruments of domination, and flux and transition were set aside. An additional pair of linked metaphors were added based on language that has often been observed by the researcher in organizations. These additional metaphors are aristocracy and serf. These present opportunities for people to report on their experience of privilege and power.

Research Instrument

A new instrument was created that required participants to make forced choices among sets of four values, beliefs, assumptions, language, or behaviors. In each set, one choice is neutral. Participants ranked the four choices from "most believe to be true" to "least believe to be true." All metaphoric perspectives were equally represented in the 56 sets presented in a questionnaire. The questionnaire was designed so that two versions of 28 sets each could be identified to allow for assessment of split test validity.

Metaphoric Content

Each of the metaphors used in this research was operationalized reflecting key elements of a paradigm, as described by Kuhn. These included values, beliefs, and assumptions associated with that particular metaphor. The metaphors used in the research are presented in Table 2. The statements were identified, drawing initially on Morgan (1986) and then the professional experience of the researcher. Notice how the first pair of metaphors represent the opposite sides of a common system that assumes the presence of the other side. The remaining metaphors each stand on their own with unique sets of statements of values, beliefs, and assumptions. These statements, building on their association with particular metaphors, were then used as the basis for the instrument.

Table 2: Metaphors and Examples of Paradigm Features

Aristocracy and Serf Metaphors:
Organizations are similar to the aristocracy/serf relationships. Aristocracy/serf relationships have certain characteristics, such as:
A small group or class of people control and benefit from the work of a much larger number of people
There is a clear distinction between those in controlling group and those who are not
The controlling group expends whatever resources necessary to maintain control by the group
There appears to be an opportunity for those not in the controlling group to join it due to loyal and/or distinguished service
Those who identify more with the **aristocracy** have certain characteristics:
Because of capability or class position, some people are ordained to rule
Those not in the controlling group are expected to fulfill their roles without complaint
Membership in this ruling group is important
Those who identify more with the **serfs** have certain characteristics:
Individuals seek to join the group in power, join with others to counter the top group's power, or resign themselves to their situation
Labor, not dedication, is exchanged for money and other rewards
Life outside of work is much more important than work
Brain Metaphor:
Organizations are assumed to be similar to the brain. Brains have certain characteristics, such as:
Collects and processes information
Makes decisions based on information
Initiates and processes communication
Learns from the collected information
Holographic - all parts contain the capability of the whole
Culture Metaphor:
Organizations are similar to cultures. Cultures have characteristics, such as:
Values operate as the foundation for the activities and aspirations of the people
Heroes personify the culture's values and provide tangible role models for individuals
Ceremonies and rituals tie people together and provide visible and potent examples of what the culture stands for
Standardized expectations of each other become the norms guiding daily activities
People identify with and feel a part of a culture
Cultures endure through generations providing continuity
Machine Metaphor:
Organizations are assumed to be similar to a machine, such as an automobile engine. Machines have certain characteristics, such as:
Designed to produce something
Made up of parts - when one fails, it is simply replaced with a part with identical capability
Parts do their job without a consciousness of what is being produced or why
Parts act as intended
Machines have a finite capacity, when that capacity is exceeded, add more machines or have them work more hours
Organism Metaphor:
An organization is similar to a living organism. Organisms have certain characteristics, such as:
Are alive and seek to stay alive
Different species have adapted to different environments
Success of the whole is dependent upon the activities of interdependent parts
Have needs which they seek to satisfy
Interact with and adapt to their environment
Political Metaphor:
An organization can be viewed as a political process. Political processes have certain characteristics, such as:
Individuals seek to increase their personal influence
Political campaigns are long-term activities
Additional influence can be gained by exchanging favors
Political bases must be constantly nurtured
People are always waiting in the wings to exert their political power

Table 2 provides a summary of the metaphors used in this research. The features of each metaphor are drawn from the elements of paradigms

The instrument was created by systematically identifying sets of three of the above statements plus one neutral statement not related to the metaphors being explored. All of the above statements were used in the instrument. The order of the presentation of the metaphor-related statements was randomized within each set. See Appendix 1 for examples of how these sets were presented to participants.

The instrument was administered to students in two different undergraduate Industrial-Organizational Psychology courses at the University of California, Irvine. In each course, students were allowed to use a portion of a class to complete the instrument. Students in each course had a single opportunity to participate. A total of 195 students were offered the opportunity to complete the instrument. Participation did not impact their grade in the courses. In exchange for participation, each student was offered a personal report of their results. To maintain anonymity, participants could use any identifier, including a number or fictitious name. 176 students participated. The reports were generated and returned to students the following week. The data was tabulated and metaphoric preferences determined.

RESULTS AND DISCUSSION

This research sought to confirm whether metaphors in use in organizations do function as paradigms and whether preferences for particular metaphors can be identified. Participants had the opportunity to rank features of particular metaphors to reflect their metaphoric preferences.

176 respondents completed their instrument in a form that allowed for tabulation. The forced ranking of four choices per set was a more complex set of instructions than 12 students were able to understand. They completed the forms in an unusable manner. Nine students chose not complete the forms.

A total of 63 males and 113 females completed the forms. They ranged in age from 19 to 26 years of age. Most identified their occupation as "student." A few worked full or part-time in retail or other entry-level positions. The results did not differ significantly between any of these demographic categories. The results of the two versions of the instrument were also not significantly different. The instrument has had excellent results in both the split-test reliability and test-retest reliability. Because of the construction of the instrument, it was possible to have a number of metaphors rated as stronger, moderate, or minimal. The most common pattern of response was to have two metaphors rated 30 or above, three rated 15-29, and two rated at below 15. The highest rating attained by anyone in this sample was a 44 (aristocracy). There were also two brain and two culture rated at 40 or above. These five people reflected an extremely high preference for their favorite metaphors. At the other end, the lowest rated metaphor had just one point (Serf). Only the Serf and Political metaphors received ratings of 5 or less (Serf six times and Political nine times). These fifteen people reflected an extremely low preference for these metaphors.

The results of the instrument are presented in Table 3. As might be predicted in a population where psychology students predominate, the most common stronger preference was the Brain metaphor. 63% of the respondents preferred the Brain-related statements resulting in a Brain score of 30 or higher. Culture (39%) and Organism (38%) were also frequently stronger choices. Less than a quarter (24%) of the respondents chose Machine frequently enough to rate 30 or more. Serf (4%), Aristocracy (2%), and Political (2%) metaphors were rarely chosen enough to place them in the strongest category.

The Machine (73%) and Aristocracy (72%) were the most common choices for moderate preferences. Organism (61%), and Culture (57%) all garnered moderate preferences for more than half of the respondents. Serf (40%), Political (40%), and Brain (35%) were chosen less frequently. The Political (58%) and Serf (56%) most frequently appeared in the minimal preference category. The Aristocracy (26%) was still a more common choice, especially compared to the very low frequency of the Culture (4%), Brain (2%), Machine (2%), and Organism (1%). A concern when looking at this data is whether these metaphors are measuring similar preferences. In looking at the correlation between all of the combinations of metaphor preferences, the highest positive correlation was 0.327 between Brain and Culture and 0.226 between Brain and Organism. Nearly all of the other correlations were negative. The strongest negative correlations were -0.513 between Brain and Political, -0.479 between Brain and Serf and -0.476 between Culture and Political. This data is reported in Table 3.

After the results of the instrument were tabulated reports were generated for each of the participants. An example of such a report is included in Appendix B. The reports summarized their particular preferences and, based on those preferences, what the participant tends to believe about organizations and the people in them, what they likely or unlikely to observe, and what outcomes they will tend to take action to achieve.

These reports were returned to participants using whatever number or name they choose to use. This research affirmed that participants could differentiate among the features of the different metaphors and consistently rate – high, medium, or low- preferences for particular metaphors.

Table 3: Total Preferences Reported (N=176)

	Strongest	**Moderate**	**Minimal**
	≥30	**15-29**	**<15**
	3	127	46
Aristocracy	2%	72%	26%
	7	71	98
Serf	4%	40%	56%
	111	61	4
Brain	63%	35%	2%
	68	101	7
Culture	39%	57%	4%
	43	129	4
Machine	24%	73%	2%
	67	107	2
Organism	38%	61%	1%
	3	71	102
Political	2%	40%	58%

Table 3 presents the relative preference for each of the metaphors. Choosing a particular metaphor as "most believe" at each opportunity would result in a score of 45. Selecting incremental values of 15 (<15, 15-29, and ≥30) produced a report that was both readily understood and approximated a standard distribution. Relative preferences were clearly evident.

Table 4: Correlations among Preferences

Aristocracy & Brain	-0.364	Culture & Machine	-0.065
Aristocracy & Culture	-0.490	Culture & Organism	0.198
Aristocracy & Machine	0.052	Culture & Political	-0.476
Aristocracy & Organism	-0.262	Culture & Serf	-0.225
Aristocracy & Political	-0.145		
Aristocracy & Serf	-0.102	Machine & Organism	-0.118
		Machine & Political	-0.335
Brain & Culture	0.327	Machine & Serf	-0.263
Brain & Machine	0.077		
Brain & Organism	0.226	Organism & Political	-0.338
Brain & Political	-0.513	Organism & Serf	0.466
Brain & Serf	-0.479		
		Political & Serf	0.235

Table 4 presents the correlation of the preferences for all pairs of metaphors. Column 1 lists the pairs of metaphors. Column 2 presents the correlation coefficients for each of the pairs.

CONCLUDING COMMENTS

This paper examines whether metaphoric preferences could be differentiated using statements related to sets of values, beliefs, assumptions, and behaviors. To examine this issue, a sample of undergraduate industrial/organizational psychology students were used. A total of 176 students completed the survey instrument in the Fall of 2005. The results indicate that it is possible to differentiate metaphoric preferences using such statements. Specifically, the results show the statements associated with each metaphor were consistently rated in a similar manner to the other statements in the same associated set. The next challenge was whether the reports generated based on individual instruments would be meaningful. These reports provided a graphic presentation of the degree of their metaphoric preferences. For their highest preferences the report indicated a summary of their beliefs, what they tend to see in the organization, and what action they tend to take. For moderate metaphoric preferences, the report presented moderately held beliefs, what they may see but are less likely to explore further, and what action they might take with less enthusiasm. For the least preferred metaphoric preferences, the report noted what they tend not to believe, see, or take action. These reports were based on a more extensive description of each of the metaphoric perspectives. In discussions with participants after they had received their reports, there was a consistent affirmation of what was said about them. This was additional face validity for the instrument and the reporting process. The participants reported that the information felt familiar to them but that they had not thought about these perspectives in this way.

This research is an early exploration of the practical use of metaphors within organizations. It has two primary limitations. The first is that it used an approach that can be refined based on the lessons learned in this effort. The second is that it used a convenient sample of college students. It is difficult to judge whether similar results will be obtained from individuals at all levels of organizations. Future research should be directed to this population rather than restricted to further academic participants. It is in exploring this subject with people working in a variety of organizations that the validity and usefulness of the research will be realized.

This research was an initial step in exploring the practical, daily use of metaphors in organizations. The research adds to the body of literature by venturing into an area that has been minimally explored. One of the key purposes of the research was as a validity test for the instrument and the larger premise that people do have metaphoric preferences that impact the way they see their organizations and the priorities for actions to be taken. Recognizing that this research was completed with undergraduate students in an Industrial-Organizational Psychology course, the instrument will next need to be tested in organizational (for-profit and not-for-profit) settings. It will be in this context that the prevalence and impact of metaphors on everyday decisions will be more evident. Will the preference patterns from the students are repeated in real, work situations? If they are, that will be important information. If not, that will also be useful information.

APPENDICES

Appendix A: Examples of Portions of the Instrument

The instrument was constructed to facilitate participants to check the strength of their belief in the sets of metaphor-related statements. Nearly all participants were able to follow the directions and record their preferences in the expected manner.

Example A: Example of the Way to Complete Instrument

	Most Believe			Least Believe	
A		X			Organizations are most effective when everyone wears blue
	X				Sucessful organizations require people to work in the same location as other employees
			X		Organizations are most efficient when they have new buildings
				X	Organizations are most productive during the Spring

Check only one in each column for each group of four statements.

Example B: Weaver Metaphor Instrument ©

	Most Believe			Least Believe	**Weaver Metaphor Instrument ©**
1					Conflict with others can be useful, especially if I win
					There may be many different ways to achieve the same end
					Getting people involved creates a sense of ownership and responsability
					It is fair that the top decision making group has significantly higher rewards

2					It is fair that top decision making groups has significnatly higher rewards
					Knowing my organizacion's mission provides focus to my work
					People need to be able to do a variety of jobs so we can cover if people are away
					I expect the top decision making grups to avoid having contact with others.

Appendix B: An example of a report provided to a participant as follow-up on completing the instrument

Weaver Metaphor Instrument©
Report on Your Results

Name: Date completed: Record #:

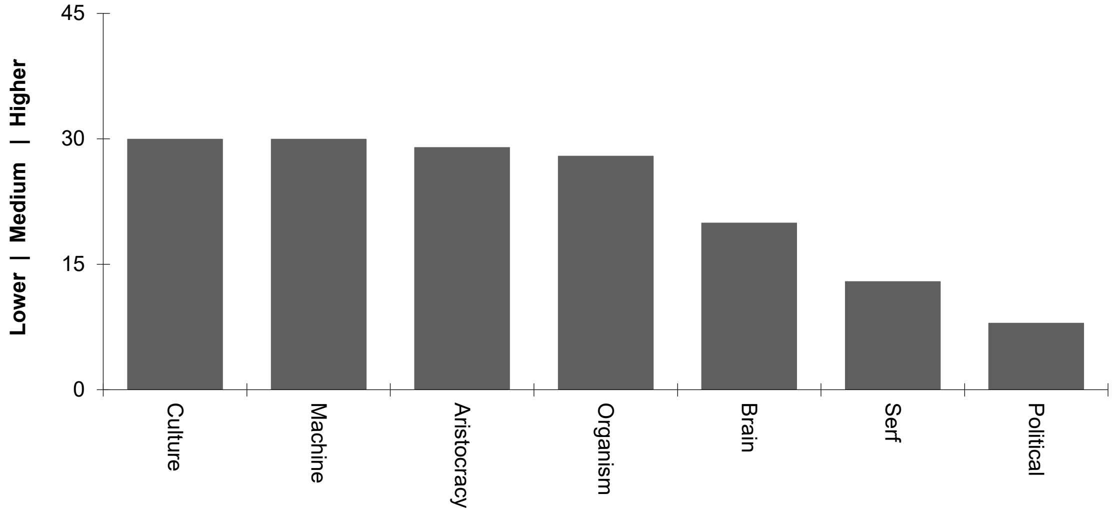
Metaphors

Organizations are so complex that we all reach for simpler ways of thinking about them. We look to our life experiences to find entities and approaches in which we identify similarities to organizations. These entities and approaches begin to represent organizations. These metaphors become more than symbols for the organization. Often, when we think of organizations, we use the language and beliefs that are associated with the metaphor. We begin to assume that whatever is true for the metaphor is also true for organization. We are also less likely to consider information that does not fit the metaphor we prefer to use.

There are a number of metaphors commonly in use. People tend to prefer using one or a combination of two or three metaphors. Each metaphor has beliefs, values, words, and behaviors associated with them. Each metaphor leads to a unique set of desired outcomes, types of problems and strengths identified, and recommended action. Each metaphor has environments where it is particularly effective and organizational dynamics and conditions that it just does not see.

Seven of the most commonly used metaphors are: Aristocracy, Serf, Brain, Culture, Machine, Organism, and Political. The Metaphor Instrument measures the preferences people have for these metaphors. The stronger the preference, the more likely that metaphor will influence the observations, decisions, and actions of the individual. The weaker the preference, the less the metaphor will influence the individual.

Your Preferences



Scores	30	30	29	28	20	13	8

Higher Preference

Culture Metaphor

You tend to strongly believe the following

Alignment of individual and organizational values and beliefs result in higher productivity

A shared sense of mission and vision for an organization provides a focus for the work of each individual

The cultural norms of the organization may either support or hinder its willingness and ability to change

Higher levels of involvement and participation create a sense of ownership and responsibility among those who are a part of an organization

What the organization has been in the past has a large influence on the present and future of the organization

You strongly tend to see the following

The degree of alignment of values and beliefs

The degree of shared ownership in the organization's well being

The degree of alignment of individuals with the organization's mission

The degree to which the organizational norms support adapting to changing conditions both within and outside the organization

How ceremonies and celebrations are used within the organization

You take action that seeks to achieve

Clarification and agreement on the shared values and beliefs

Clarification and agreement on the organization's mission and vision for the future

Reinforce organizational norms that support the organization being most productive

More productive use of ceremonies and celebrations within the organization

Machine Metaphor

You tend to strongly believe the following

Organizations can and should operate in a rational manner
Organizations should focus on improving the quality and quantity of the products or services it produces
Creation of standards and adherence to them will lead to success
People higher in the structure are in a better position to make the best decisions
If individuals do not work out in their positions, they can be easily replaced
Stability is most important, therefore periods of instability must be weathered until the stable periods return

You strongly tend to see the following

Where too many resources are being used to produce at a particular level
Where desired levels of quality are not being achieved
Where particular individuals are not producing as expected
Where action can and should be taken to increase stability

You take action that seeks to achieve

Evaluating the efficiency of an operation
Improved quality and quantity levels
Increased compliance with expectations
Increased stability within the operation

Medium Preference

Aristocracy Metaphor

You tend to moderately hold some or all of the following beliefs

You have a right to the power while others do not
Others should serve your group and your ends
Maintaining the status quo maintains the position of the group in power

While you may notice the following, you are less likely to learn more about them

Where resources are being used effectively
Where activities proceed in an orderly fashion
Where there are challenges to the position of the group in power

You tend to place a moderate priority on taking the following action

If you are part of the group in power, you tend to seek:

Ways to maintain the current approach to operations
Ways to reduce discontent by those not in power
Ways to improve benefits to those in power

Brain Metaphor

You tend to moderately believe the following

Successful organizations depend on the effective collection and distribution of information
Given the required information, people perform better

People closer to the source of information are usually in a better position to make decisions related to that information
Individuals and organizations can learn from experiences
Organizations benefit when people can do more than one job

While you may notice the following, you are less likely to learn more about them
Whether you and others are receiving the information relevant to the work to be done
Whether you and others have the information required to make the best decisions
Whether you and others have learned from experiences
Whether you and others have the capability and opportunities to perform alternative jobs

You tend to place a moderate priority on taking action that seeks to achieve
Improved collection and distribution of information
Improved use of information to perform jobs, including making decisions
Increased learning from individual and organizational experiences

<u>Organism Metaphor</u>

You tend to moderately hold some or all of the following beliefs
Organizations must interact regularly freely with their environments
Organizations are made up of many parts that must function well together for the whole to thrive
There may be many different ways to achieve the same end
Organizations must evolve, adapt, and change if they are to survive
Change is a process that can be influenced but not controlled

While you may notice the following, you are less likely to learn more about them
The degree to which organizations adapt to their environments
The degree to which individuals and groups cooperate and collaborate
The degree to which groups create enough synergy
The degree to which there is sufficient exchange between internal areas of organizations and their environments

You tend to place a moderate priority on taking the following action
Improvement in the fit between the organization and its environment
Improved interaction and exchanges between parts of the organization and with the organization's environment
Increased alignment between individual and group needs and the capabilities and needs of the organization
Improved health of relationships within the organization and with people in its environment

Lower Preference

<u>Political Metaphor</u>

You tend not to believe that
Organizations are arenas where the goal is more personal influence
Influence can be developed through personal relationships control of resources, control of information, and access to others with more power
Influence can be increased by the shrewd trading of favors and taking action that diminishes the influence of others
Conflict is helpful only if you win and increase your influence

Informal influence is just as useful as formal position-based influence

You tend not to see

How others develop and use influence
How growth in parts or all of the organization create opportunities for influence
How the organization influences its environment
How rivalries affect the success of the organization

You tend not to take action to

Increase your personal influence
Increase the influence of your organization on its environment
Increase the acceptance of using influence within your organization
Smooth transitions of influence from one person to another

Serf Metaphor

You tend not to believe that

You have a duty to serve those who have the power
You could, through exceptional work, join the group in power
You can only counter the power of the top group through organizing others who are excluded from power

You tend not to see where

Exploitation is taking place of individuals and/or groups
Opportunities for advancement are not equally available
Activities take place to keep the work force from unifying

You tend not to take action to

Join the group in power
Influence the group in power
Collectively counter the power of the top group

With your combination of preferences, you are most challenged in seeing:

How groups of individuals in the organization are exploited for the benefit of a few
How positioning for individual power can distract individuals and groups from the purpose of the larger organization

You may or may not see the following

How a group is able to maintain its control or influence over an organization
How to create continuous learning and broad based ability to complete particular work
How the whole organization must respond to its environment to thrive and how parts of the organization are interdependent

You most likely to see the following

How the people in the organization are affected by the beliefs, values, and rituals propagated within the organization.
How to create increased efficiency and improved quality

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IMPACT OF FOREIGN AID ON CORRUPTION: AN ECONOMETRIC CASE STUDY OF SOUTH ASIA AND EAST ASIA

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ABSTRACT

An interesting area of research has emerged that explores the relationship between foreign aid and corruption in developing countries. Several studies have found that corruption is festered by rent seeking activities in the recipient countries when aid-funded resources are transferred without accountability at the decision makers' discretion. On the other hand, several studies have concluded that foreign aid helps curb corruption by improving the quality of governance. This study uses 1996-2013 annual data from 14 developing countries in South Asia and East Asia to analyze the impact of aid on corruption. Results estimated in this study suggest that foreign aid has helped lower corruption in the sample countries and the impact of multilateral aid on curbing corruption is stronger than that of bilateral aid. In addition, rule of law, political stability and accountability are found to be strong deterrents of corruption. These results improve our understanding of the aid-corruption dynamics, which is critical for designing strategies to promote long-term economic efficiency in developing countries.

JEL: F35, D73

KEYWORDS: Foreign Aid, Corruption, South Asia, East Asia

INTRODUCTION

At the turn of the 20th century, international transfer of capital was mostly confined to the transfer of private capital among the wealthy western nations. International transfer of public capital gained prominence after the WWI, and it was not until after the WWII that public lending from developed nations to developing nations started to assume a more significant role in the growth dynamics of the recipient economies. At the conclusion of the WWII, the US launched the Marshal Plan (also known as the European Recovery Program) to help restore economic stability in war-ravaged Europe and also to defend against Soviet expansion in the continent. Inspired by the success of the Marshal Plan, many foreign assistance programs were subsequently conceived to assist the developing countries. At the same time, many developing countries also embarked on their campaign of achieving rapid economic growth and utilized this opportunity of availing easy foreign capital as the primary means of achieving that target. However, the subsequent growth experience of many of these aid-recipient countries turned out less than satisfactory, which generated intense debate among economists about the efficacies of foreign aid programs (Quazi 2010).

Based on the early theoretical development of the 1950's and 1960's, the traditional pro-aid view holds that aid contributes to economic growth in recipient countries by complementing domestic resources, helping transfer modern technology, easing foreign exchange constraints, and facilitating easy access to foreign markets (Chenery 1965 and Papanek 1972). In the backdrop of empirical revelation that growth of some of the aid-recipient countries had actually been negative, the anti-aid view holds that aid actually harms the recipient countries by supplanting domestic resources, funding the transfer of inappropriate technology, worsening income inequality and trade balance, and in general helping sustain corrupt governments (Griffin and Enos 1970 and Weisskopf 1972).

Following the anti-aid view, an interesting area of research has emerged that explores the relationship between foreign aid and corruption. Several prominent studies, such as Rose-Ackerman (1975), Klitgaard (1988), and Bliss and Di Tella (1997), have contended that rent seeking activities contribute to corruption when decision makers are able to transfer resources at their discretion without accountability. Tavares (2003) asserted that foreign aid arguably engenders these rent seeking activities, as "Aid disbursements are typically handed free to local authorities that then distribute them, with considerable discretion, among their fellow citizens. Aid is thus ripe territory for corruption." Knack (2001) contended that increased aid-dependence compensates for poor economic policies and weak governance in recipient countries by offering them a "crutch". Increased conflict over aid funds can also create incentives for corruption. The World Bank admitted that huge increase in foreign aid packages to developing countries has inadvertently contributed to the "opportunities of malfeasance" (World Bank 1989). If foreign aid is indeed a contributing factor for increased corruption, that may explain the negative impact of aid on the recipient economy. Many studies have analyzed the economic consequences of corruption using alternative economic theories, such as rent-seeking, transaction cost, etc. and generally found that corruption breeds inefficiencies and distortions, which harm the economy. For example, Mauro (1995) found that corruption entrenches inefficiencies; Gupta et al. (1998) found that corruption worsens poverty and income distribution, and adversely affects education and healthcare services, and Tanzi and Davoodi (1997) found that corruption reduces productivity of public investment. It should be noted that several studies have offered the alternative view that corruption can facilitate decision-making and enhance efficiency. For example, Bardhan (1997) suggested that corruption can "grease the wheels of commerce" in the presence of weak legal and regulatory frameworks, and Houston (2007) found that corruption raises economic growth in countries that have weak legal frameworks.

On the opposite camp of this debate, several studies (e.g. Goldsmith 2001, Dunning 2004, Ear 2007, Charron 2011, and Okada and Samreth 2012) have argued that foreign aid affects the quality of governance positively, which helps curb corruption. These studies contend that aid donors can impose pre-conditions on the recipient countries that they must initiate specific reforms prior to receiving aid packages to improve the quality of governance and reduce corruption. International oversight by aid donors may also enhance accountability of recipient governments. In a related study, Alesina and Weder (2002) found that more aid is given to more corrupt countries; however, the econometric evidence that foreign aid breeds corruption is statistically weak. Knack (2001) also found that bureaucratic quality and rule of law is weakened by foreign technical assistance, but the relationship between aid and corruption is not significant.

An important catalyst in affecting the impact of aid on corruption is the "Anti-Corruption Movement" (ACM) that major international organizations launched in developing countries in the late 1990s (Charron 2011). The ACM was launched following the consensus of major international organizations in the mid-1990s to give high priorities to good governance in developing countries. In 1995, the United Nations established a new division (Management Development and Governance Division) to promote government accountability and transparency in member states. In 1996, the OECD members signed the convention on "Combating Bribery of Foreign Public Officials in International Business Transactions". The IMF also launched its anti-corruption campaign in 1996. In the same year, all members of the World Trade Organization (WTO) joined the Working Group on Transparency in Government Procurement, which was created to address accountability and corruption. The following year, the World Bank (WB) created a new anti-corruption institution (World Bank Institute) and started focusing on anti-corruption measures in recipient countries. Following into the footsteps of the global international organizations, a number of regional organizations, such as the European Union and the Organization of American States, also initiated anti-corruption campaigns by the late 1990s. Since the launch of the ACM, foreign aid from multilateral organizations has been reportedly tied to the recipient governments' commitment to fighting corruption (ibid).

This study uses 1996-2013 panel data from 14 developing countries in South Asia and East Asia to analyze the impact of foreign aid on corruption. The sample includes 7 countries from South Asia (Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan and Sri Lanka) and 7 countries from East Asia (Cambodia, China, Indonesia, Lao, Malaysia, Philippines and Vietnam). These countries were selected for this study as they have generally witnessed high incidence of corruption and also received huge foreign aid (see Table 1). Using the GLS-Random Effects estimation methodology, this study finds that foreign aid actually has helped curb corruption in the sample countries and that multilateral aid is more effective than bilateral aid in reducing corruption. In addition, rule of law, political stability and accountability are found to be very strong deterrents of corruption, but educational attainment, economic development and regional differences do not appear to have significant effects on corruption.

The rest of the paper is organized as follows: the second section presents literature review, the third section describes the model, methodology, and data, the fourth section discusses the estimated results, and the final section concludes the paper.

LITERATURE REVIEW

A robust empirical literature on the relationship between corruption and foreign aid has grown in the last two decades; however, there appears to be little consensus in the literature about the nature of this relationship. Among the early aid-corruption studies, Svensson (2000) used a game-theoretic rent seeking model on panel data from 66 aid recipient countries covering the period 1980-1999. The exogenous variables included: terms of trade, primary product exports/GDP, initial per capita income, population, national income, and region specific dummy variables for Sub-Saharan Africa and Central America. Using a 2SLS simultaneous model, this study found three key results: first, foreign aid influx and large windfall gains raise government revenues, which under certain circumstances may lead to reduced provision of public goods; second, the prospect of aid influx may create "rent dissipation" leading to wasteful public spending; and third, the presence (or absence) of competing social groups is a critical catalyst of the aid-corruption relationship, which is found to be positive in countries populated with competing social groups, and negative in countries that have few competing social groups. The study concluded that the aid donors can restrain rent seeking activities in recipient countries if they are able to formulate binding policy agreements with competing social groups.

Svensson (2000) found no statistical evidence that the less corrupt countries systematically receive more foreign aid. A later study found that the more corrupt countries in fact receive more foreign aid, which is perhaps due to the fact that the more corrupt countries are also generally the more impoverished countries, which should receive huge aid packages (Alesina and Weder 2002). This study also found weak statistical evidence that aid leads to more corruption. In a recent study, Acht et al. (2014) also found that the more corrupt countries receive more aid. However, when bilateral donors become concerned about the developmental issues in poorly-governed countries (which typically take a back seat to the donor countries' geo-political self-interests), these countries are allocated smaller amounts of direct government-to-government bilateral aid (both in absolute amounts and as a share of total aid), and instead more aid is channeled through NGOs and multilateral organizations bypassing the recipient governments.

Tavares (2003) analyzed the impact of aid from the 11 largest OECD countries on corruption in non-OECD recipient countries. This study used political rights, ethno-linguistic fractionalization, oil exports, total population, government expenditures, colonial history, legal system, and religion as exogenous variables, and also accounted for the interaction between foreign aid and the recipient country's cultural and geographical proximity to donor countries. The estimated results suggest that aid reduces corruption, which the author attributed to two effects - conditionality effect and liquidity effect. The conditionality effect is that aid donors may enforce strict rules and conditions on the recipient countries, thus limiting the discretion of their officials, which may in turn diminish corruption. The liquidity effect is that by providing additional resources to the cash-strapped poor governments, foreign aid may reduce public revenue shortages and contribute to higher salaries for public officials, which reduces the incidence of "petty corruption" by them.

Ali and Isse (2003) studied the determinants of corruption with data from the 1980s-1990s. The estimated results suggest that corruption is reduced by more efficient judiciary, improved schooling, smaller government, greater economic freedom, decentralized government and less foreign aid. Among other variables, political freedom, per capita GDP growth rate and ethnicity were found to have insignificant impact on corruption. The results also showed that as the level of aid increases, the marginal impact of government expenditure on corruption also increases. The study concluded that foreign aid "strengthens the predatory power of the government ... and creates opportunities for the government to proliferate, which in turn increases the level of corruption" (p. 460).

Charron (2011) estimated a 2SLS and a generalized method of moments (GMM) model with panel data from 82 countries from 1986-2006. The models included different types of aid, level of institutionalized democracy, economic development, ethno-linguistic fractionalization, and legal system as determinants of corruption. This study analyzed the effects of foreign aid on corruption by disaggregating aid into different types (multilateral aid vs. bilateral aid) and in different timeframes (pre- vs. post-1997). The underlying premise of analyzing different timeframes is that since the mid-1990s (when the ACM was launched) good governance and corruption reforms have been at the core of many multilateral aid projects and 1997 is the watershed year for the international organizations' fight against corruption, as major anti-corruption agreements were signed by that year. This study found that the ACM adopted by the major multilateral organizations helped curb corruption in developing countries, but bilateral aid had either positive or insignificant effects on corruption.

Okada and Samreth (2012) used data from 120 developing countries from 1995-2009 to analyze the effects of aid on corruption. They used different types of aid (i.e. total aid, multilateral aid and bilateral aid from four major donors - France, Japan, UK and US), per capita income, democracy and legal origin as exogenous variables. Using the *quantile* regression approach, which helps analyze the effects of aid on corruption at different intervals on the corruption distribution, this study found that foreign aid generally reduces corruption, and the reduction impact is greater in low-corruption countries. These results are explained with the reasoning that foreign aid is likely to be utilized more efficiently in low-corruption countries, which, *inter alia,* may improve the quality of institutions and governance, which in turn reduces corruption. They also found that multilateral aid is more effective in reducing corruption than bilateral aid (except for aid from Japan), which is due to the fact that multilateral aid is often tied to the recipient countries' commitment to promotion of institutional quality and reduction of corruption. Bilateral aid on the other hand is often dictated by geo-political strategic self-interests of the donor countries and colonial relationships with their former colonies. However, it was found that bilateral aid from Japan negatively affects corruption in recipient countries, which is partly due to the fact that, unlike the other three donors, Japan does not have strong historical relationships with the recipient countries.

Asongu (2012) estimated a 2SLS-IV and a Dynamic System GMM regression model with 1996-2010 panel data from 52 African countries. The models used three different types of aid (official development assistance, aid from the DAC (Development Assistance Committee) countries and aid from multilateral donors), trade openness, democracy, legal origins, income levels, and religion as exogenous variables. The results suggest a robust and positive relationship between foreign aid and corruption in Africa. In a related study, Asongu (2013) analyzed the impact of foreign aid on a broad set of institutional quality indicators (i.e. political stability, government effectiveness, voice & accountability, rule of law, regulation quality, democracy, and corruption) in Africa. This study also analyzed whether the existing institutional thresholds play a significant role in influencing the impact of aid on institutions, which may differ across recipient countries with strong and weak institutions. Panel data from 53 African countries covering the period 1996-2010 were used to estimate OLS and *quantile* regressions. The OLS parameters provided a baseline of mean effects, which were compared to separate *quantile* estimates in the distributions of the dependent variables (institutional quality indicators). Foreign trade, foreign investment, public investment, legal system, per capita income, and dummy variables for low-income, English common-law and landlocked countries were used as exogenous variables. The estimated results suggest that foreign aid has generally weakened institutional quality in Africa, but there is no evidence that the existing institutional level has any bearing on the impact of aid on institutions.

No study has been conducted to analyze the impact of foreign aid on corruption in the sample regions selected in this study - East Asia and South Asia. Although some countries from this sample have been included in other studies as developing/emerging countries, no study has focused exclusively on the aid-corruption relationship in East Asia and South Asia. This study will make a unique contribution to the aid-corruption literature by improving our knowledge of the aid-corruption dynamics in these emerging economies.

MODEL, METHODOLOGY AND DATA

The following general-to-specific regression equation is used to estimate the models:

$$\begin{aligned}\text{Corruption}_{i,t} &= \alpha + \beta_1 \text{Foreign Aid}_{i,t} + \beta_2 \text{Educational Attainment}_{i,t} + \beta_3 \text{ Economic Develeopment}_{i,t} \\ &+ \beta_4 \text{ Rule of Law}_{i,t} + \beta_5 \text{ Political Stability}_{i,t} + \beta_6 \text{ Economic Freedom}_{i,t} + \beta_7 \text{ Region}_{i,t} + \varepsilon_{i,t}\end{aligned}$$

The dependent variable (corruption) is measured by a proxy variable - the *Control of Corruption* indicator published by the *Worldwide Governance Indicators (WGI).* This index captures "perceptions of the extent to which public power is exercised for private gain, including both petty and grand forms of corruption, as well as *capture* of the state by elites and private interests" (WGI 2013). The index is constructed with many variables, such as corruption and accountability in public sector, anti-corruption and transparency, prosecution of office abuse, irregular payments in judicial decisions, etc. Several recent studies, e.g. Okada and Samreth (2012) and Asongu (2012), have also used the CCI index as a proxy variable for corruption. On this index, countries are scored from -2.5 (weak control of corruption) to + 2.5 (strong control of corruption); therefore, a higher score on this index reflects less corruption. To ensure robustness of the estimated results, the regression equations are also estimated with the *Corruption Perceptions Index* (CPI) developed by the Transparency International (2013). The main results estimated with the CPI indicator are essentially similar to the results obtained with the CCI indicator. Since these two indices measure the same variable - corruption, they should be highly correlated. The correlation coefficient between these indices is indeed very high (0.90). Details are available from the author. Selection of the exogenous variables besides foreign aid has been guided by the extant empirical literature.

The literature holds that higher levels of educational attainment generally create an environment that contributes to less corruption (Ali and Isse 2003). As data on educational attainment (e.g. percent of population with primary/secondary school enrolment) for the sample countries during the sample period is not readily available, this study uses the percent of GDP spent on public education as a proxy variable for educational attainment. The *a priori* expected sign of the coefficient of educational attainment (β_2) is positive (note: a higher value of the dependent variable signifies less corruption).

If the basic need for survival is a driving force for corruption, then there should be a higher incidence of corruption in low income countries. Many studies have found that countries with higher economic development generally suffer from less corruption (La Porta et al. 1999, Treisman 2000, Charron 2011, Okada and Samreth 2012, and Asongu 2012). This study uses the natural log of per capita GDP (adjusted for purchasing power parity) as a proxy variable for economic development. The *a priori* expected sign of the coefficient of economic development (β_3) is positive.

Countries with strong rule of law and efficient judiciary should be able to prosecute the rich and powerful and the common people alike who are found guilty of corruption, which should diminish the incidence of corruption. Many studies have found that the quality of judicial/legal system is an important determinant of corruption (Ali and Isse 2003, Tavares 2003, Charron 2011, Okada and Samreth 2012, Asongu 2012, and Asongu 2013). This study uses the Rule of Law indicator published by the WGI (2013) as a proxy variable for the quality of the judiciary/legal system. This indicator "captures perceptions of the extent to which agents have confidence in and abide by the rules of society, and in particular the quality of contract enforcement, property rights, the police, and the courts, as well as the likelihood of crime and violence" (WGI 2013). The indicator is constructed with several variables, including protection of private property, reliability of police services, contract enforceability, fairness of judicial process, judicial independence, judicial accountability, law and order, etc. The a priori expected sign of the coefficient of rule of law ($\beta 4$) is positive.

Democratic rights/freedom and political stability should contribute to an overall environment that diminishes rent seeking opportunities for corruption. Using several different proxy variables, many studies (e.g. Treisman 2000, Sandholtz and Gray 2003, Ali and Isse 2003, Tavares 2003, Charron 2011, Okada and Samreth 2012, and Asongu 2012) have found that the lack of political freedom and stability is an important driver of corruption in developing countries. This study uses the Political Stability and Absence of Violence indicator published by the WGI (2013) as a proxy variable for political stability. This indicator "measures perceptions of the likelihood that the government will be destabilized or overthrown by unconstitutional or violent means, including politically-motivated violence and terrorism" (WGI 2013). The indicator is constructed with several variables, including armed conflict, violent demonstrations, social unrest, government stability, ethnic tensions, civil unrest, etc. The *a priori* expected sign of the coefficient of political stability (β_5) is positive.

The domestic economic environment should also play an important role in shaping the overall environment where corruption can either thrive or diminish. Ali and Isse (2003) found that lack of economic freedom is a significant driver of corruption. The domestic economic environment is determined by a host of qualitative factors, therefore it is difficult to quantify. This study uses the *Index of Economic Freedom* published by the *Heritage Foundation* and *The Wall Street Journal* (2013) as a proxy for domestic economic environment. This index incorporates 50 independent variables in 10 broad categories -- government intervention in the economy, fiscal burden of government, trade policy, banking and finance, monetary policy, capital flows and foreign investment, regulation, property rights, black market activity, and wages and prices. The *a priori* expected sign of the coefficient of economic freedom (β_6) is positive.

A dummy variable (Region) has been added to check if there exists any regional difference between the effects of aid on corruption in South Asia vis-à-vis East Asia, which may arise due to economic and/or cultural differences across the two regions. However, it should be noted that these countries are not very far apart either geographically/culturally or in terms of economic performance (except for China), which may negate any such regional differences.

Following Charron (2011), Okada and Samreth (2012), and Asongu (2012), it can be reasonably assumed that multilateral aid is more effective in curbing corruption than bilateral aid. Multilateral aid is often tied to the recipient countries' commitment to and performance in fighting corruption, but bilateral aid is generally dictated by the geo-political strategic self-interests of the donor countries, who may not be concerned as much about the success of the anti-corruption measures in the recipient countries. To test this hypothesis, a second set of models is estimated where foreign aid is disaggregated into multilateral aid and bilateral aid.

The regression models are estimated with 18 years of annual data (1996-2013) from 14 countries (7 South Asian and 7 East Asian countries). Selection of the sample period (1996-2013) is dictated by the availability of data – the *WGI* dataset is not available for years prior to 1996. Since the dataset comprises panel data, the regression models are estimated with the Generalized Least Squares (GLS) - Random Effects methodology. To ensure methodological robustness, the regression models have been also estimated with the Feasible Generalized Least Squares (FGLS) methodology. The estimated results are generally consistent with the GLS-Random Effects results. Details are available from the author.

Data on all types of foreign aid (total aid, multilateral aid, and bilateral aid - all as % of GNI), educational attainment (% of GDP spent on public education) and per capita GDP (PPP adjusted) have been collected from the World Development Indicators (World Bank 2014). Data for the WGI indicators (corruption, rule of law, and political stability) have been collected from the Worldwide Governance Indicators (WGI 2013), and data for economic freedom have been collected from the Index of Economic Freedom (Heritage Foundation/Wall Street Journal 2013). The dummy variable for regional differences takes the value of "1" for countries in South Asia and "0" for countries in East Asia.

Table 1 below presents the regional differences between South Asia and East Asia on two key variables – Control of Corruption Indicator (CCI) and Official Development Assistance/Gross National Income (ODA/GNI).

Table 1: Corruption and Foreign Aid Inflows in South Asia and East Asia

Country	Control of Corruption Index	ODA/GNI
South Asia		
Bangladesh	-1.07	2.16
Bhutan	0.69	13.35
India	-0.43	0.25
Maldives	-0.35	4.70
Nepal	-0.58	6.47
Pakistan	-0.94	1.54
Sri Lanka	-0.24	2.37
Regional Average	-0.42	4.41
East Asia		
Cambodia	-1.09	9.52
China	-0.49	0.12
Indonesia	-0.80	0.58
Laos	-1.07	13.20
Malaysia	0.27	0.05
Philippines	-0.58	0.55
Vietnam	-0.61	3.66
Regional Average	-0.62	3.96
Global Average	0.004	

Notes: Table 1 presents data on corruption and foreign aid inflows in South Asia and East Asia. It appears that the South Asian countries have received more foreign aid and are also marginally less corrupt than the East Asian countries, which accords with the hypothesis that foreign aid can help curb corruption in recipient countries.

The global average score for the corruption index (0.004) exceeds the average index score of each region (S. Asia: -0.42, E. Asia: -0.62), which suggests that each region suffers from a high incidence of corruption. The average score of South Asia is slightly higher than that of East Asia, which indicates that the South Asian sample countries are marginally less corrupt than their East Asian counterparts. The

ODA/GNI figures suggest that the South Asian countries (average 4.41%) have received more aid (as a share of national income) than the East Asian countries (average 3.96%). It appears from the data presented in Table 1 that the more aid-recipient South Asian countries are marginally less corrupt than the East Asian countries, which is in line with the hypothesis that foreign aid can help curb corruption in developing countries. It will be interesting to see if this negative relationship between aid and corruption still holds out in the multiple-variable panel regression framework used in this study that controls for the role of other important determinants of corruption (e.g. rule of law, education, economic freedom, political stability, etc.). The next section presents these regression results.

RESULTS

Tables 2-5 present the GLS-Random Effects regression results. Table 2 lists estimated results from the first three models which yield very similar results. These models include the same set of explanatory variables – foreign aid, educational attainment, economic development and regional differences. In addition, Model 1 includes one more explanatory variable (rule of law), which is replaced by "political stability" in Model 2 and by "economic freedom" in Model 3.

Table 2: GLS-Random Effects Regressions (Impact of Foreign Aid on Corruption)

Explanatory Variables	Model 1		Model 2		Model 3	
	Coeff.	z stat	Coeff.	z stat	Coeff.	z stat
Intercept	-0.57	-1.44	-0.34	-0.72	-1.05	-1.59
Foreign Aid	0.03	2.51**	0.03	1.94*	0.05	3.15**
Educational Attainment	0.02	0.95	0.01	0.55	0.05	1.77*
Economic Development	0.02	0.36	-0.04	-0.80	-0.02	-0.27
Regional Differences	0.01	0.03	0.21	0.86	0.14	0.54
Rule of Law	0.68	7.25**				
Political Stability			0.20	4.66**		
Economic Freedom					0.01	0.53
Diagnostic Statistics	n = 110		n = 110		n = 99	
	Wald χ^2_5 = 66.6 (P value = 0.00)		Wald χ^2_5 = 34.5 (P value = 0.00)		Wald χ^2_5 = 19.2 (P value = 0.00)	

*Notes: Table 2 presents results from three models, which include slightly different sets of explanatory variables. The coefficient of foreign aid turns out positive and statistically significant in all models, which suggests that foreign aid has reduced corruption in the sample countries. **Coefficient statistically significant at 5%; *Coefficient statistically significant at 10%*

The coefficient of foreign aid turns out positive and statistically highly significant in all models, which suggests that foreign aid has helped curb corruption in the sample countries. The coefficient of educational attainment appears with the correct *a priori* positive sign, but is not statistically highly significant (except in Model 3). The coefficients of economic development and regional differences came out statistically highly insignificant in all models. When estimated separately, rule of law (in Model 1), political stability (in Model 2) and economic freedom (in Model 3) appear statistically highly significant with the correct *a priori* signs (except in Model 3); however, when estimated jointly they appear statistically insignificant, which could be due to the possible presence of multi-collinearity among these variables. Table 3 below presents the estimated results from three additional models, which are variations of the first three models listed in Table 2.

Again, the coefficient of foreign aid turns out positive and statistically highly significant in all models, and rule of law also appears to be a very significant deterrent of corruption in all models. In addition, accountability (a proxy variable for civil liberties collected from the WGI) and political stability also turn out statistically significant separately, but not jointly. The index measures "perceptions of the extent to which a country's citizens are able to participate in selecting their government, as well as freedom of expression, freedom of association, and a free media" (WGI 2013). Given that civil liberties and political freedom/stability generally go hand in hand, it is likely that multi-collinearity exists between these two variables.

Table 3: GLS-Random Effects Regressions (Impact of Foreign Aid on Corruption)

Explanatory Variables	Model 4		Model 5		Model 6	
	Coeff.	z stat	Coeff.	z stat	Coeff.	z stat
Intercept	-0.33	-0.80	-0.46	-1.16	-0.84	-1.53
Foreign Aid	0.03	2.45**	0.03	2.15**	0.05	3.65**
Educational Attainment	0.02	0.84	0.02	0.66	0.04	1.40
Economic Development	0.01	0.01	0.01	0.12	0.03	0.72
Regional Differences	-0.03	-0.23	0.07	0.42	0.05	0.32
Rule of Law	0.64	6.78**	0.55	5.04**	0.64	6.41**
Accountability	0.16	2.22**				
Political Stability			0.10	2.11**		
Economic Freedom					0.01	0.06
Diagnostic Statistics	n = 110 Wald χ^2_6 = 69.6 (P value = 0.00)		n = 110 Wald χ^2_6 = 67.3 (P value = 0.00)		n = 99 Wald χ^2_6 = 63.5 (P value = 0.00)	

*Notes: Table 3 presents results from three additional models, which are variations of the models listed in Table 2. The coefficient of foreign aid again turns out positive and statistically highly significant in all models. **Coefficient statistically significant at 5%; *Coefficient statistically significant at 10%*

Tables 4-5 below re-estimate all models presented in Tables 2-3 by disaggregating total foreign aid into multilateral aid and bilateral aid.

Table 4: Impact of Multilateral Aid and Bilateral Aid on Corruption

Explanatory Variables	Model 1		Model 2		Model 3	
	Coeff.	**z stat**	**Coeff.**	**z stat**	**Coeff.**	**z stat**
Intercept	-0.22	-0.36	0.24	0.34	-0.68	-0.74
Multilateral Aid	0.06	2.53**	0.04	1.52	0.06	2.16**
Bilateral Aid	0.01	0.19	0.01	0.50	0.03	1.22
Educational Attainment	0.03	1.04	0.02	0.61	0.06	1.83*
Economic Development	-0.03	-0.39	-0.11	-1.36	-0.05	-0.66
Regional Differences	-0.01	-0.06	0.20	0.82	0.13	0.58
Rule of Law	0.65	6.79**				
Political Stability			0.18	4.11**		
Economic Freedom					0.01	0.49
Diagnostic Statistics	n = 110 Wald χ^2_6 = 64.9 (P value = 0.00)		n = 110 Wald χ^2_6 = 36.2 (P value = 0.00)		n = 99 Wald χ^2_6 = 17.6 (P value = 0.01)	

*Notes: Table 4 re-estimates all models presented in Table 2 by disaggregating total foreign aid into multilateral aid and bilateral aid. The coefficient of multilateral aid turns out positive and generally statistically significant, but the coefficient of bilateral aid came out statistically insignificant. These results suggest that multilateral aid has helped lower corruption in the sample countries, but bilateral aid has not. **Coefficient statistically significant at 5%; *Coefficient statistically significant at 10%*

The coefficient of multilateral aid turns out positive and statistically highly significant in five out of six models and marginally significant in the remaining model, but the coefficient of bilateral aid came out statistically insignificant in all but one model. These results suggest that multilateral aid has helped lower corruption in the sample countries, but bilateral aid has not. Coefficients of the other variables (e.g. educational attainment, economic development, regional differences, rule of law, etc.) turned out essentially similar to the original results presented in Tables 2-3.

As evident from the regression results presented in all four tables (Tables 2-5), the estimated coefficients of all explanatory variables show good robustness. The coefficients of foreign aid, multilateral aid, rule of law, and political stability appear statistically significant with the correct *a priori* signs in almost all model specifications, but the coefficients of bilateral aid, educational attainment, economic development and regional differences consistently come out statistically insignificant. The diagnostic statistics (Wald χ^2) show that the models have satisfactory statistical properties. The Breusch-Pagan test statistics (not reported in the tables) indicate the presence of random effects in all model specifications, which justify the selection of the GLS-Random Effects methodology. The diagnostic details are available from the author.

Table 5: Impact of Multilateral Aid and Bilateral Aid on Corruption

Explanatory Variables	Model 4		Model 5		Model 6	
	Coeff.	z stat	Coeff.	z stat	Coeff.	z stat
Intercept	-0.02	-0.03	-0.15	-0.24	-0.80	-1.12
Multilateral Aid	0.05	2.05**	0.05	1.90*	0.05	1.96**
Bilateral Aid	0.01	0.54	0.01	0.44	0.04	1.96**
Educational Attainment	0.02	0.88	0.02	0.75	0.03	1.30
Economic Development	-0.04	-0.54	-0.03	-0.48	0.03	0.39
Regional Differences	-0.04	-0.25	0.05	0.30	0.04	0.32
Rule of Law	0.62	6.44**	0.53	4.81**	0.70	7.12**
Accountability	0.14	1.95*				
Political Stability			0.08	1.77*		
Economic Freedom					0.01	0.21
Diagnostic Statistics	n = 110 Wald χ^2_7 = 67.5 (P value = 0.00)		n = 110 Wald χ^2_7 = 64.9 (P value = 0.00)		n = 99 Wald χ^2_7 = 73.8 (P value = 0.00)	

**Coefficient statistically significant at 5%; *Coefficient statistically significant at 10%

*Notes: Table 5 re-estimates all models presented in Table 3 by disaggregating total foreign aid into multilateral aid and bilateral aid. The coefficient of multilateral aid turns out positive and statistically highly significant, but the coefficient of bilateral aid came out statistically insignificant (except in Model 6). These results again suggest that multilateral aid has helped lower corruption in the sample countries, but bilateral aid has not. **Coefficient statistically significant at 5%; *Coefficient statistically significant at 10%*

The main results found in this study suggest that foreign aid has helped reduce corruption in the sample countries. This result accords with the hypothesis that the aid donors can force the recipient governments to initiate/strengthen anti-corruption reforms by attaching pre-conditions on aid packages, and furthermore watchful scrutiny by the aid donors can lead to enhanced accountability of the recipient governments. When total foreign aid is disaggregated into multilateral aid vs. bilateral aid, it is found that the effect of multilateral aid on reducing corruption is stronger than that of bilateral aid. This result accords with the hypothesis that, since the launch of the Anti-Corruption Movement by the multilateral organization in the late 1990s, foreign aid from these organizations has been generally tied to the recipient governments' commitment to fighting corruption, but bilateral aid is mostly dictated by the strategic self-interests of the donor countries, which for the most part is not related to the success/failure of anti-corruption movement in the recipient countries.

Several other variables (e.g. rule of law, political stability and accountability) are found to be very strong deterrents of corruption in the sample countries. These variables contribute to an overall environment that diminishes rent seeking opportunities for corruption. Two important variables (educational attainment and economic development) are found to have no significant impact on corruption. It is possible that the proxy variables used for these variables (the percent of GDP spent on public education and the natural log of per capita GDP) do not adequately capture the actual impact of these variables on corruption. Future studies may explore alternative proxies for these two variables. Finally, it is found that there exists no significant regional difference between the effects of any type of aid (total, multilateral and bilateral aid) on corruption in South Asia vis-à-vis East Asia. This is not surprising given that these two regions are within close geographical proximity (for example, China borders as many as four South Asian countries included in this study - India, Pakistan, Nepal and Bhutan) and are also somewhat similar in terms of their economic performance and cultural traits.

CONCLUSIONS

The primary goal of this study was to analyze the effects of foreign aid on corruption in developing countries. In theory, foreign aid can breed corruption in the recipient countries by creating rent seeking activities, but on the other hand, foreign aid can also help curb corruption by improving the quality of governance. To test these hypotheses, several GLS-Random Effects models are estimated with 1996-2013 annual data from 14 developing countries in South Asia and East Asia.

The main results found in this study suggest that foreign aid helps lower corruption in the sample countries, and that multilateral aid reduces corruption more effectively than bilateral aid. These results lend credence to the view that accountability of the recipient governments can be enhanced by aid donors, who can enforce strict rules and conditions on the recipient governments and limit the discretion of their public officials, which in turn lowers corruption. Furthermore, the donors can help reduce corruption by stipulating specific anti-corruption reforms that need to be undertaken by recipient countries. As discussed in a previous section, major international organizations (e.g. UN, IMF, World Bank, etc.) embarked on an "Anti-Corruption Movement" in the late 1990s with the explicit objective of promoting the agenda of transparency and government accountability in developing countries. Since the launch of the ACM, multilateral aid has been generally tied to the recipient governments' commitment to fighting corruption, but bilateral aid is dictated primarily by the donors' strategic geo-political self-interests. Results found in this study make a positive case for the ACM in that it seems to have been successful in diminishing corruption in the sample countries. Therefore, major international organizations should continue to give the ACM a high priority and push the aid-recipient governments to seriously commit themselves to anti-corruption reforms.

The results also suggest that rule of law, political stability and accountability are strong deterrents of corruption. Therefore, to succeed in their fight against corruption, the developing countries should focus on strengthening their legal, civil and political institutions (which is also beneficial to the developing countries on their own merits). One possible limitation of the study is in the selection of the particular proxy variables for educational attainment and economic development. The study did not find any significant effect of educational attainment and economic development on corruption which is counter-intuitive. This could be due to specific proxy variables used that possibly did not adequately capture the actual impact of these variables on corruption. Future studies may explore alternative proxy variables. As an avenue for further research, it will also be interesting to investigate whether the negative aid-corruption relationship found in this study holds out for other developing regions (e.g. Africa and Latin America).
The research theme of this study is important as a deeper understanding of the aid-corruption dynamics is vital for designing strategies to promote long-term economic efficiency in developing countries.

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PUBLIC POLICY FOR VENTURE CAPITAL: AN INTEGRATED FRAMEWORK

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ABSTRACT

This paper reviews the main theoretical and empirical literature on public policy that supports the development and growth of vibrant venture capital industries worldwide. The paper focuses on the content and results of public policy mechanisms adopted in various countries, their theoretical grounding and main empirical findings, with an eye to distilling the main patterns of success and failure. Five broad areas of public policy intervention that tackle both demand and supply sides of the venture capital industry are reviewed: (1) the development of an entrepreneurship and innovation ecosystem; (2) investment laws and regulations; (3) fiscal policy; (4) secondary stock market; and (5) government venture capital. The paper concludes with a public policy framework distilled from the literature. This work will help academics, practitioners and policy makers, especially those new to the field, to get a comprehensive yet concise map of the academic literature on the topic, which currently is much needed. It also helps readers in identifying the main research questions and empirical results to date.

JEL: K2, O17, O250

KEYWORDS: Venture Capital, Public Policy, Entrepreneurship Policy, Entrepreneurial Finance, Financing Innovation

INTRODUCTION

Megginson (2004) defines modern venture capital as '… a professionally managed pool of money raised for the sole purpose of making actively-managed direct equity investments in rapidly-growing private companies, and with a well-defined exit strategy.' Venture capital is equity capital that commands above market returns and is typically invested in young companies that have high growth potential but are nevertheless highly risky (Gompers 1997; Boocock and Woods 1997; Florida and Kenney 1988; Sophie et al. 2002). A venture capitalist will typically become deeply involved in the invested company beyond the provision of equity capital, giving strategic advice as well as access to a rich network of technical marketing, financial and operations support to grow the company (Botazzi and Da Rin 2002; Schmidt 2003; Klonowski 2010). With these unique characteristics, venture capital is poised to support the growth of highly innovative and promising young companies in new industries, which other forms of financing would find too risky to invest in.

Many countries are seeking to foster vibrant communities of VCs through enhancing both supply of and demand for VC investments through the creation of opportunities and incentives (Baygan and Freudenberg 2000). Key supply side factors include the channeling of capital willing to invest in young, risky ventures; the availability of technical expertise capable of evaluating, funding and assisting these young ventures; and an exit mechanism for VCs. On the demand side, a preponderance of promising ideas, high-potential entrepreneurs and firms suitable for investment are needed. The following sections provide a review of the empirical and theoretical literature dealing with common policy instruments that have been used by governments in various countries to foster a vibrant venture capital industry. Each policy tool is explained along with its potential benefits and drawbacks, in addition to its most important conditions for success. Before reviewing the public policy instruments, the debate on the desirability and effectiveness of government intervention in stimulating entrepreneurial and VC activity is summarized (Lerner 2009; Cumming 2011). Following the public policy debate, the literature on government support policies for stimulating entrepreneurial demand for VC are reviewed. The following section looks at investment laws and regulations after which fiscal policies to enhance the VC sector are surveyed. Next, we look at exit mechanisms for VC followed by a review of government venture capital. Finally, patterns of success and failure are gleaned from the literature and conclusions are drawn.

LITERATURE REVIEW

In economic theory and practice, direct government intervention in supporting entrepreneurship and VC is warranted in the presence of market failures (Keuschnigg and Nielson 2001). Two major market failures have been documented: a shortage in the supply of capital to new technology-based firms (NTBFs), known in the literature as the 'funding gap' and the presence of positive spillovers/externalities, which reduce private incentives for innovation and entrepreneurship. In the absence of a well-developed VC sector, high potential NTBFs would typically fail to receive investment capital from traditional financial institutions. Theoretically, this funding gap is explained by the presence of adverse selection and moral hazard due to information asymmetries. Adverse selection arises in a situation where the entrepreneur knows more about the technology/product than the investor and may inflate its strengths contrary to investor interests. The investor commits capital under this asymmetric information.

Moral hazard results from the inability of the investor to evaluate the extent to which the entrepreneur is putting forth the optimal effort that would make the enterprise successful (Amit, Brander, and Zott 1998). Most young companies do not own the high collateral that bank loans would require and in the case of high technology, a company's financial statements will typically display several years of negative cash flow due to spending on R&D, product development and marketing. Thus NTBFs are unlikely to be funded through traditional means (Lerner and Watson 2008; Lerner 2009; Mason 2009). Venture capital has its way of mitigating the high risks involved in such investments through a costly due diligence process before pledging capital and by being deeply immersed with the investee in growing the company. Given the high commitment, VCs will typically not find it feasible to invest in seed and start-up, where companies' financing needs are quite modest (Kanniainen and Keuschnigg 2003). Furthermore, as VCs grow in their expertise, they are able to attract larger investment funds. Experienced VCs will tend to pick larger size projects rather than finance a large number of small projects. This again biases VC investments away from NTBFs (Dubocage and Riveau-Danset 2002; Mason and Pierrakis 2011; Palacio, Zhange, and Sole 2012).

Government intervention is thus warranted to correct imperfections in capital markets where young innovative firms are faced with credit constraints. From a theoretical economic perspective, the risk associated with such companies would require that they pay a premium over the regular interest rate that is charged more mature, high-collateral companies (Mason 2009). This premium is one that young start-ups are unlikely to be capable of servicing. Any public policy instrument that increases the supply of investment funds would help to lower this interest rate. Also, any policy instrument that increases the return on investment would increase the willingness of arms length financiers to invest in high-collateral companies, thus freeing up VC funds for low collateral companies (Da Rin, Nicodano, and Sembenelli 2006). The funding gap for promising startups has also been associated with market inefficiencies that are caused by lack of information, whereby promising start-ups cannot locate VCs and vice versa (Harding 2002).

Besides the funding gap, entrepreneurship is an economic activity that exhibits increasing returns due to the presence of positive spillovers (externalities) (Lerner and Watson 2008). The more entrepreneurial activity, the better the services, expertise and networks that VCs, lawyers and other professionals make available to support entrepreneurs. These positive spillovers are particularly vital in the early development of an entrepreneurial sector and VC industry. When the industry reaches a critical mass, returns on investment in VC pick up and the importance of government intervention declines (Lerner and Watson

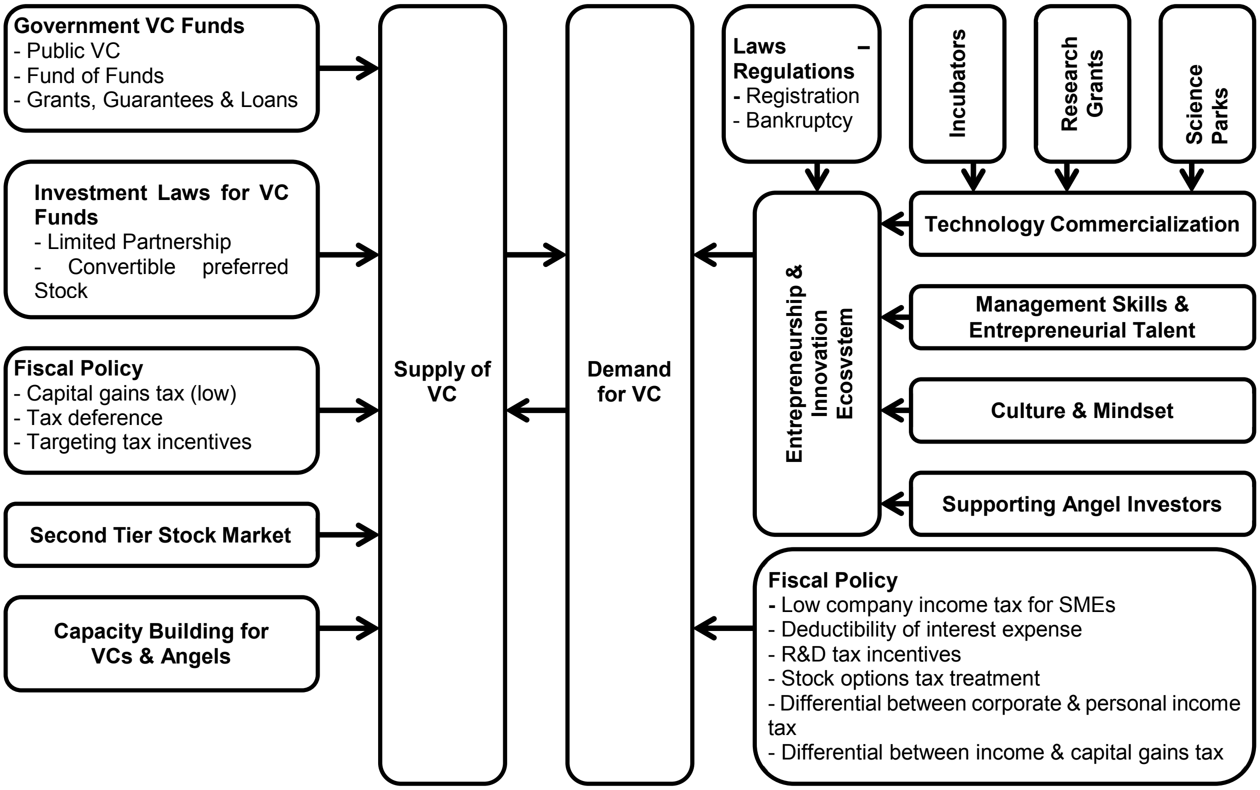
2008; Lerner, 2010). Technological innovation is also an activity that exhibits positive spillovers and in many instances the social rate of return on R&D exceeds the private rate of return to the companies undertaking it. Public finance theory supports government subsidies in case the company undertaking the innovation cannot capture all the economic benefits (Lerner and Watson 2008). Avnimelech and Teubal (2004) use an evolutionary/systems perspective to show that by lowering the private cost of early entrants into the VC industry, the American government policy allowed for individual and collective learning to take place and for a mature VC industry to evolve.

The number one argument against government intervention is incompetence (Lerner and Watson 2008). A government bureaucrat will not spend the funds under his/her control with the same diligence as an entrepreneur or investor spends his/her hard won dollars on a venture that is his future success or demise. Poor choice of unsuccessful investment targets, profiteering by hiring consultants who are relatives or friends of the program administrators, and other misconstrued incentives and moral hazard behaviors are cited (Lerner 2009). Secondly, there are groups of beneficiaries who organize to capture the direct and indirect subsidies provided by public support programs. These groups are not, in many cases, the target beneficiaries that the government programs were initially designed to support (Lerner, 2009). Third, government policy may be ineffective due to bundling multiple policy objectives with contradicting priorities under common programs (McGlue 2002). The rest of the paper presents an integrated framework for public policy interventions geared toward the evolution of a vibrant VC sector. Figure (1) below illustrates the main policy mechanisms that have been employed in various countries and gleaned from the literature. The figure shows how each mechanism stimulates the development of the VC sector either by enhancing the demand for or the supply of venture capital.

<u>Policy Mechanism (1): Entrepreneurship and Innovation Ecosystem</u>

The entrepreneurship and innovation ecosystem caters primarily to the demand side of the VC industry and entails creating an entrepreneurial sector, encouraging research and commercializing innovative ideas to ensure access to cutting edge technology (Romain and van Pottelsberghe 2004; Lerner 2009). Moreover, it involves the cultivation of entrepreneurial skills and capacities that produce a virtuous cycle and a steady stream of attractive investible start-ups (Lerner 2010). Singapore has been able to build a vibrant VC sector by catering to demand side policies first, by stimulating entrepreneurship and building R&D capabilities in the 1980s then shifting its focus to supply side initiatives in the 1990s to provide seed and start-up capital (Lerner, Moore, and Shepherd 2005). The increased internationalization of the VC sector, as portrayed by the rising amounts of cross-border VC investments, points to the possibility of the demand side becoming the more decisive factor in developing a country's VC industry. If local entrepreneurial talent exists, it will attract VC investments from many countries, even if domestic supply is short (Baygan and Freudenberg 2000). Creating an entrepreneurial & innovation ecosystem that attracts VC requires support for R&D, intellectual property and commercialization of technology (Da Rin, Nicodano, and Sembenelli 2006); enhancement of entrepreneurial skills (Karaömerliolu and Jacobsson 2000; Mason and Harrison, 2001; Romain and van Pottelsberghe 2004; Mason 2009); cultivation of an entrepreneurial culture and mindset (Karaömerliolu and Jacobsson 2000; Gilson and Schizer 2003; GEM); and support for angel investors. Technology commercialization, innovation, entrepreneurial culture and mindset are all research fields with rich streams of literature, the review of which is beyond the scope of this paper. We focus here on the aspects of entrepreneurial skill and mindset that are particularly important for VC investment.

Figure 1: An Integrated Framework on VC Public Policy



One of the important elements in an entrepreneurial culture is acceptance of failure and a willingness to take risk (Karaömerliolu and Jacobsson 2000; Knight 1921). Being VC investment ready involves influencing entrepreneurs to change their attitudes about relinquishing equity to investors (Ooghe et. al. 1989), trusting the VC process (Harding 2002), teaching them how to "sell" and "pitch" to investors and finally, making their business investment worthy. The latter involves fundamental issues in the quality of the management team/entrepreneur, the position of the business in the market, the viability of exit and returns on investment (Mason and Harrison 2001). Some of these investibility issues are costly and therefore, some European countries have set up grants to cover costs of market accessibility and analysis, legal due diligence and technology validation (Harding 2002; Mason 2009). Universities, training centers, incubators, angel investors and VCs are all important actors in the accumulation of entrepreneurial talent and business acumen (Palacio, Sole, and Batista-Foguet 2008). Moreover, government initiatives that foster connections between locals and expatriates in developed VC industries are helpful in this regard (Lerner 2009). In the case of India, many Indian immigrants set up high-tech businesses in the US and after becoming successful, started to invest in young companies as angels or VCs. These individuals later became transfer agents of the Silicon Valley model to India (Avnimelech and Teubal 2004).

Business angels bridge the funding gap between the stage where the entrepreneur has depleted all personal funds and the stage where VCs are willing to invest. Angels typically make smaller investments than VCs and at earlier stages of the company development (Lumme, Mason, and Suomi 1996; Mason and Harrison 2010). They provide an initial screening and signaling to VCs and they help propel the company forward (Jones-Evans and Thompson 2009). Due to the relatively large size of deals required by VCs, angel investors fill an important funding gap for early stage companies (Lockett, Murray, and Wright 2002; Mason 2009; Collewaert, Manigart, and Aernoudt 2010). Research shows that this gap is more pronounced in Europe, but not as severe in America (Dimov and Murray 2008). BANs (Business Angel Networks), frequently financed through public funds, are created to facilitate networking and awareness among local business angels and entrepreneurs seeking angel investment (Mason 2009; Collewaert, Manigart, and Aernoudt 2010; Baygan 2003b). In some OECD countries, angel investors have formed groups/syndicates to pool funds and co-invest as a group alongside larger VC funds (Baygan 2004). These private BANs exhibit investment patterns that are quite different from public non-profit BANs. Public nonprofit BANs are the ones mostly filling in the equity gap for seed and startup stages, and therefore the rise of private BANs does not remove the need for the public BANs (Mason and Harrison 1997). Scholarship is divided over the question whether governments should continue to encourage business angel networks, especially after the rise of private BANs. Mason and Harrison (2007 and 2010) as well as Harding (2002) support government intervention to encourage business angels. This position is supported by evidence from Europe at least, which suggests that public BANs have a unique and non-redundant role to play in plugging the equity gap for early stage ventures.

There are several ways in which government may intervene to support angel investors. Mason suggests that governments may provide fiscal incentives; modify legislation to allow advertising of investment opportunities; '…capacity building initiatives to raise the competence of investors and to improve the investment readiness of businesses seeking finance; and, co-investment schemes that leverage public money with angel money.' (Mason 2009, 540). Moreover, some European governments provide loan guarantee schemes for business angels (Aernoudt, José, and Roure 2007). Key demand side policies include helping entrepreneurs become investment ready (Mason and Harrison 2007), and fostering links between angel networks to incubators, universities, and research centers where technology transfer and commercialization take place (Baygan 2004). Demand side initiatives are becoming more important, with rising evidence that angels are investing below their full capital potential (Mason and Harrison 2010).

Avnimelech and Teubal (2004) point to the paucity of literature on organization issues in the VC industry, such as attracting professionals and stimulating collective learning in the industry. The design of government programs can go a long way in building capacity of local investors. For example, The Yozma fund of Israel had, as a primary objective, the acquisition of knowledge from foreign LPs (limited partners) and the creation of an international network of contacts (Avnimelech and Teubal 2004). Sweden and Canada have also resorted to attracting foreign VCs to augment the talent and experience of local VCs and expose them to best practice (Baygan 2004). The encouragement of cooperation with expatriates with a proven record of success is another mechanism toward the same end. National VCAs (venture capital associations) provide important support services for the cultivation of local investor talent. Capacity building initiatives need not only target local VCs; training is also needed for business angels. Less common and much needed is training for intermediaries such as '*…accountants, lawyers, bankers, consultants, and business incubator managers*' who often give advice to entrepreneurs (Mason 2009) as well as technology transfer institute managers (Harding 2002).

Policy Mechanism (2): Investment Laws and Regulations

Laws and regulations may be designed to create an enabling environment for entrepreneurship (demand for VC) as well as VC funds and companies (supply of VC). Several authors have examined the effect of the legal environment on the structure and operation of venture capital (Ribeiro and Carvalho 2008; Cumming, Schmidt, and Walz 2010). Since the functioning of a venture capital industry entails complex contractual arrangements, a well functioning legal system with respect for the rule of law and reduced bureaucratic complications will facilitate VC operation (Haitian, Yi, and Gongmeng 2007). Empirical studies show that in countries with robust legal systems and property rights protection, VCs are more likely to invest in high-tech companies; there is faster origination and screening of deals; there are more exits through IPOs; VCs are less likely to require periodic cash flows before exit; and there is easier board representation by VCs (Megginson 2004; Cumming, Schmidt, and Walz 2010). Contract enforcement reduces transaction costs and closing time due to reducing the need for lengthy shareholder agreements (Bosut 2004). On the other hand, research shows that in weak legal environments, VCs are more likely to require controlling shares thus leaving lower incentives for entrepreneurs and valuations are positively correlated to the quality of the legal environment (Lerner and Schoar 2005). The quality of the legal environment is especially important if a country wishes to attract flows of foreign venture capital (Baygan 2004).

Investment Laws for Venture Capital Funds

Governments that aim to cultivate vibrant VC industries are encouraged to consider these three important areas of regulation: (1) allowing institutional investors to invest in VC funds; (2) allowing the limited partnership company structure for VC funds; and (3) allowing investors to own their equity shares in the form of convertible preferred stocks. Allowing institutional investors such as private pension funds, university endowments and insurance companies to invest in VC (Baygan 2003a, b, c, d) is an important government policy that has been employed in the U.S. and in several OECD countries to mobilize investment funds in the VC industry (Gompers et. al. 1998; Gompers and Lerner 2001). Institutional investors may be reluctant to invest in VC because of government restrictions as well as the higher risky and illiquidity of VC (Baygan 2003d). VC funds under investment multiplied six fold and pension funds came to represent over half of all VC investments following the U.S. regulatory amendment in 1979 (Romain and Pottelsberghe 2004; Haitian, Yi, and Gongmeng 2007). Regulatory reforms work to reduce the quantitative, qualitative and geographical restrictions on venture capital investments of pension funds and insurance companies (EVCA 2008).

The LP (limited partnership) company structure is the legal structure of choice for VC funds and its adoption increases competence in a national VC industry because it encourages experienced managers to enter and attracts global institutional VCs (Karaömerliolu and Jacobsson 2000; Gompers et al. 1998). A venture capital firm is usually set up as a management company with several LPs under management, each LP being a separate legal entity (Haitian, Yi, and Gongmeng 2007). The investors in the VC funds – mostly institutional investors – are the limited partners in the partnership, who, in case of losses in the portfolio company, are only liable up to their shares of capital in the partnership. The major advantages of the LP structure are the limited liability and the absence of taxation at the partnership level, this avoiding double taxation (Carvalho, Netto, and Sampaio 2012). This tax flow-through advantage allows partners to make use of tax exemptions in their home jurisdiction, which is vital given that most global institutional VC investors are university endowments, pension funds and government funds, which are by nature tax exempt in their home countries. For other taxed investors, the tax flow-through of a limited partnership allows partners to offset their losses from the LP against other taxed income (Lerner, Moore, and Shepherd 2005). It is important for local markets to emulate this US based LP system to encourage global institutional investors to enter the local market (Gompers and Lerner, 2001; Lerner 2009).

The VC firm acts as the general partner and manages the investments in the portfolio companies on behalf of the investors. The general partner is liable for the debts and obligations of the portfolio companies (Lerner, Moore, and Shepherd 2005). In return, the general partner receives a share of the gains in the portfolio companies (normally around 20%) in addition to a management fee. Here, the returns to the VC are tied to its performance, and thereby optimize its incentives to grow the value of portfolio firms (Haitian, Yi, and Gongmeng 2007). In countries that offer lucrative entrepreneurial ventures but lack the regulatory infrastructure, VCs register offshore limited partnerships to invest in local portfolio companies, China being a prominent example (Haitian, Yi, and Gongmeng 2007). Countries that wish to attract VC introduce regulatory reforms that minimize such transaction costs by availing a dedicated or suitable domestic fund structure or vehicle that is tax transparent for domestic and sometimes non-domestic limited partners. The absence of undue restrictions on the investment activities of the fund structure/vehicle further facilitates the operation of domestic and foreign investors in local investment opportunities (EVCA 2008).

Convertible preferred stock is the equity instrument of choice from a theoretical point of view (Trester 1998; Schmidt 2003). Convertible preferred stock is a special type of financial instrument that offers a flexible form of equity ownership by the VC investors in the portfolio company. This instrument has evolved due to serious agency and hold-up risks as well as information asymmetry in the relationship between the entrepreneur and the venture capitalist, often referred to as 'double moral hazard' in the theoretical literature (Schmidt 2003; Hellmann 2006). Because the VC contributes the capital and holds liability for the portfolio company's obligations but knows less about the technology and business than the entrepreneur, the VC is vulnerable to agency problems and opportunistic behavior by the entrepreneur. Therefore, the VC investor needs to be protected in case the entrepreneur exerts less-than-optimal effort and makes avoidable mistakes that lead to the failure of the portfolio company. On the other hand, the entrepreneur needs a powerful incentive of a majority ownership in the portfolio company to put forth optimal effort and diligence, and forego the security and income from employment.

Convertible preferred stock can be made more like a loan or more like common stock, depending on the VC's decision to exercise the conversion. If the portfolio company fails, the convertible preferred stock is kept more like a loan, which allows an investor to get back the amount invested and thus protects the investor against the downside. If the portfolio company is successful, the investor may convert to common stock and thus participate in the upside gains and enjoy the privileges of common stock holders (Marx 1998; Cumming 2001). From the perspective of the portfolio company's entrepreneur, the amount of common stock that is owned by the VC in the case of conversion is limited, thereby preserving the high-powered ownership incentives, which drive entrepreneurs to put forth optimal efforts in the venture (Cumming 2001). The theoretical literature lends support that these complex contracts are effective in securing investment in highly risky entrepreneurial firms as they allocate optimal control rights between the entrepreneur and the VC (Trester 1998; Marx 1998; Black and Gilson 1998; Bascha and Walz 2001; Gilson and Schizer 2003). It is noted that the use of convertible preferred stock is much less pervasive outside the U.S. (Gilson and Schizer 2003). In countries where the legal system is not well developed, these complex contracts are not as helpful, and investors will resort to majority ownership to have more control on the results of the VC investment. The latest trend in regulation for VC in the U.S. is the JOBS Act (Jumpstarting Our Business Startups), which will allow crowd funding under certain disclosure requirements (EY 2014). This is still a new development and it remains to be seen how legislation will support the operation of crowd funding as a source of venture capital, besides traditional VC investments.

<u>Investment Laws to Encourage Entrepreneurs</u>

This section discusses regulatory measures that facilitate the setting up and closing down of private companies for entrepreneurs. The extent to which the local environment is inviting to business people and investors is gauged through several worldwide databases such as the *Doing Business* measures and the *World Competitiveness Report*. Besides setting up and registering a new company, closing down to discontinue operations is also important. In this respect, bankruptcy laws that are entrepreneur friendly (Armour and Cumming 2006; Cumming 2011) reduce the punitive measures for executives of bankrupt companies. Since entrepreneurial skill is experiential in nature, punishing failure makes it more difficult for entrepreneurs to amass the needed experience to establish successful start-ups, time and again (Lerner 2009). Furthermore, it discourages individuals from picking the self-employment option. Jeng and Wells (2000) present empirical evidence that shows a significant effect of bankruptcy laws on the intensity of VC investments in a country. A detailed review of government policies to support small business is beyond the scope of this review; any facilitating regulation in the latter realms will help high growth enterprise.

<u>Policy Mechanism (3): Fiscal Policy Tax Incentives</u>

There are several mechanisms through which taxation can provide incentives for entrepreneurial risk taking (demand) and VC investments (supply). Tax incentives operate through the different types of taxes, the levels of taxation and differentials between personal and corporate taxation. Examples of tax incentives include fiscal incentive schemes for young and innovative companies; lower company tax rate for small business, or a progressive taxation system with lower rates for companies with profits up to a certain limit; deductibility of net interest expense by VC backed companies; R&D tax incentives; treating stock options as capital gains rather than as professional income and taxing them when they are sold rather than when they are granted (EVCA 2008). Without special tax treatment for VCs, the typical taxation system may provide severe disincentives for VC investment because VCs may be taxed at three different levels: (1) the company in which the VC invests, the income of which is taxed (2) the VC fund is taxed for dividends it receives from the investee company (3) the investors in the VC fund get taxed for dividends they receive from the VC fund (Karaömerliolu and Jacobsson 2000).

This is all in addition to the capital gains taxes. From a theoretical perspective, it has been shown that tax cuts are an important stimulant for entrepreneurship in general and VC investments per se, because of the effects on increasing the returns on investment. There are various types and levels of taxation that may stimulate entrepreneurship, innovation and provide an incentive for VCs. The theoretical literature looks at the effects of alternative forms of taxation, such as personal and corporate income tax, and personal and corporate capital gains tax, on the demand and supply of VC (Cullen and Gordon 2002). Corporate income tax affects entrepreneurship in general, while capital gains tax is especially relevant for VC investments in high tech and early stage companies, as the entrepreneurs and the VC realize a significant portion of the return on investment in the form of capital gains when the company is sold or floated on the stock market. The effects of tax cuts will depend on the country and the context (Da Rin, Nicodano, and Sembenelli 2006). For example, in the U.S. reductions in corporate capital gains tax is unlikely to increase the supply of VC funds because the main suppliers of such funds in the U.S. are pension funds and university endowments, both of which are tax exempt (Poterba 1989). Nevertheless, capital gains taxes in the U.S. are kept low at around 20% (Karaömerliolu and Jabosson 2000) to stimulate demand for VC rather than its supply (Gompers et.al. 1998; Lerner 2009). This observation is supported by the formal theoretical work on the effects of various taxation forms on the incentives influencing individual occupational choices, showing that higher capital gains taxes lower the number of people who pick entrepreneurship rather than employment (Poterba 1989; Keuschnigg and Nielson 2001, 2002). Poterba's (1989) work, shows that capital gains due to appreciation of common stock represent a small fraction when compared to capital gains resulting from appreciation of other asset classes. This implies that targeting in capital gains tax reduction is preferable from a government revenue perspective. In Europe, a reduction in corporate capital gains tax is expected to increase VC funds, as most of the funds come from companies/corporations that are taxed (Da Rin, Nicodano, and Sembenelli 2006).

The literature also refers to more subtle effects of reductions in capital gains taxes as they influence VC incentives to monitor and advise entrepreneurial firms, thus increasing the success rate of venture backed companies, increasing their expected returns and stimulating innovation (Keuschnigg and Nielson 2001, 2002). Besides taxation levels, the literature tackles the effects of tax differentials on the demand for and supply of VC. For example, the difference between personal income tax and personal capital gains tax is likely to affect incentives toward entrepreneurial behavior, with a capital gains tax lower than income tax encouraging people to forego secure employment (Poterba 1989). It is also shown that differentials between capital gains taxes and personal income taxes may influence the incentives of entrepreneurs and VCs alike to put forth their best effort to make the entrepreneurial venture a success, thus avoiding the 'double moral hazard' (Keuschnigg and Nielson 2004). Finally, loss carry-forward provisions are also relevant to innovation driven early stage ventures that have a significant upfront investment in R&D. These tax provisions allow companies to deduct current losses from their future taxable income and in effect encourage companies to take risks and thus increase the demand for VC (Da Rin, Nicodano, and Sembenelli 2006). Targeting is an important policy consideration in the design of tax incentives for VC and entrepreneurship as taxation is an important revenue source for the treasury. Therefore, governments may target the capital gains tax cuts to asset sales from investment in entrepreneurial companies that have been held for a minimum number of years, to ensure they stimulate early stage VC deals (Lerner 2009). The literature presents many examples of such targeting in countries such as UK, Australia and France (Dubocage and Rivaud-Danset 2002; Lerner and Watson 2008; Mason and Pierrakis 2011).

Policy Mechanism (4): Second Tier Stock Market

VCs realize their return on investment when they exit the investee company by selling their equity shares. The most common exit strategies include IPOs, trade sale to a corporate buyer, and buy-back by the original entrepreneurs. IPOs are among the most attractive exit strategies, at least in the U.S., and hence an active second-tier stock market is important. Jeng and Wells (2000) study 21 countries for the determinants of venture capital supply and find that IPOs are the most important determinant of VC funds for expansion capital. Botazzi and Da Rin (2005) show that in the two years after IPO, company sales more than double, employment more than triples, capital expenditures increase twelve fold, leverage decreases while debt increases significantly, and R&D intensity remains high despite growth in sales and employment. Da Rin, Nicodano, and Sembenelli (2006) show, based on panel data from European countries, that the presence of an exit mechanism through the stock market increases the rates of innovation and the proportion of early stage VC investments. Other empirical evidence shows that exit through IPOs increases the amount of capital raised (Rebeiro and de Carvalho 2008). Thus companies go public to invest and grow, and thus it is understandable why IPOs are important from the point of view of the entrepreneur as well as the VC. The NASDAQ (National Association for Securities Dealer Automated Quotation System), the U.S. stock market for relatively small innovative firms, is the exemplar for a second-tier stock market. Established in 1971, it is now a highly developed and active market (Karaömerliolu and Jacobsson 2000).

Many countries have dedicated resources and policy efforts to create vibrant secondary stock markets to improve the exit prospects and attract venture financing in emulation of the NASDAQ. The Canadian market is quite active, second only to the NASDAQ among the secondary stock exchanges in OECD countries (Baygan 2003b). Several European OECD countries created their own secondary stock markets in the latter half of the nineties, with weak levels of activity as indicated by the number of quoted companies and the number of IPOs. Furthermore, Europe tried to create its own EASDAQ in 1996 and failed miserably in a viscous cycle of low liquidity, which further discouraged investors to go through the market, which in turn decreased the market's attractiveness until it ultimately failed (Baygan 2003b). Some developing countries have had more success in building their secondary stock markets, such as the Indian experience (Dossani and Kenney 2002).

The most common problem that plagues secondary stock exchanges in countries that try to create them is the small number of listed companies and the weak trading and IPO activities. A possible solution to this problem is for countries to pool into single regional exchanges such that the cumulative volume of listing and trading for the group as a whole would render the second-tier market dynamic. This proposal should be very feasible given the advances in ICT and the ease of computer and database networking and online trading. This is exactly what several European countries attempted in 1997 when they created the shortlived Euro.nm alliance, which '…has allowed nearly 600 companies to list and raise over $40 billion in equity capital.' (Botazzi and Da Rin 2002, 232). Integration would result in markets that have enough scale (market capitalization and liquidity) and scope to support IPOs that are less volatile and less prone to speculation. 'The scope of partnerships across exchanges could range from enhancing trade linkages, cross-listings and alliances to full-scale mergers' (Baygan, 2004, 26).

Policy Mechanism (5): Government VC Funds

VC investment is ultimately a private sector activity and the government should not in principle act as a venture capitalist. However, governments in many countries have set up VC funds during the very early stages of the VC sector's development to demonstrate the kind of returns that would stimulate the appetite of institutional investors who may initially shy away from these investments (McGlue 2002). It may take as long as two or three decades for a VC industry and an active entrepreneurial culture to emerge in a country but it should be very clear that 'government as VC' is temporary. Theoretically, VC funds supplied by the government are warranted based on the market failure arguments presented earlier. Therefore, it is essential when setting up government supplied VC funds to ensure that they are actually addressing true market failures. 'It is clearly insufficient to argue that simply because projects in region x or sector y fail to attract venture capital funding the public sector should intervene to supply the funding.' (McGlue 2002, 48) Unless these projects are high performers, their lack of finance could just indicate an efficient market mechanism that deprives weak performers of finance (Lockett, Murray, and Wright 2002). Furthermore, a region that suffers from weak VC presence is not in itself a supply side market failure if it also lacks the entrepreneurial critical mass that would attract VC investors (McGlue 2002; Sunley, et. al. 2005).

Government may pump risk capital into the ecosystem in several forms, in some instances to stimulate demand for VC through entrepreneurship and technological innovation and in other instances to leverage private sector investments and augment the supply of risk capital. Demand side programs include government-funded incubators, science parks and research grants. Supply side programs include government VC funds and fund of funds.

<u>Government Funded Incubators, Science Parks, and Research Grants</u>

Government funded incubators, science parks and research grants play an important role in stimulating innovation and entrepreneurship, especially the commercialization of scientific and applied research. Due to the positive externalities and the public good nature of producing scientific knowledge, market forces would produce a level of scientific research that is much less than the socially optimal level. Government initiatives seek to correct these market failures through offering competitive research grants, creating science parks that leverage proximity, knowledge dissemination, technology and best practice exchange as well as incubators where applied research ideas can be transferred into workable prototypes of products that can be commercialized. Empirical work on the ventures that received SBIR grants in the U.S. shows evidence of higher employment, sales growth and greater likelihood of receiving VC financing later on, attesting to the certification effect of the government VC grants (Lerner 1999). Other empirical research conducted on later time periods confirms the above findings regarding federal R&D grants and their effects on awardee company performance as well as innovation rates, as measured by patent counts (Da Rin, Hellmann, and Puri 2011). There are vast bodies of literature on industrial clusters, national innovation systems, technology policy and incubators, the review and coverage of which is beyond the scope of this paper (c.f. Nelson 1993; Salmenkaita and Salo 2002). It suffices here to make reference to these streams of literature for their relevance to enhancing the demand for VC by creating a pool of attractive investment targets.To ensure the effectiveness of such programs, the government must set targeting criteria and built in checks to ensure that the actual beneficiaries are those originally targeted.

A key issue is the geographical dispersion of the above activities and the targeting of specific regions with government support (Murray 1998; Sunley et. al. 2005). In his evaluation of the impact of the SBIR program in the U.S., Lerner (1999) finds that the program produced significant positive impact for companies that were already located in regions with a vibrant VC community. Scholars argue that channeling resources to up and coming "Silicon Valleys" such as Munich, Cambridge, or Bangalore is more effective than regions with weak entrepreneurial activity. The rationale here is that the availability in the vibrant regions of the required concentration of expertise and innovative culture, will render their contribution to national economic growth much higher than less active regions (Murray 1998; Cowie 1999; Lerner 1999). Another important policy consideration is to link the technological and commercial aspects of a proposal when evaluating potential candidates for funding. In many cases, the technology looks attractive, but the entrepreneurs are far removed from creating a working prototype of a product that gains market approval (Lerner 2002b). Another important success factor is the time orientation of policy makers

– usually politicians are very short sighted and with entrepreneurship, projects must have a long term mandate, especially in regions that have not built a critical mass (Lerner 2009).

Public Venture Capital Funds

Government-as-VC is the most obvious mechanism to create or increase the supply of risk capital when the VC industry has not emerged, and where the supply of risk capital is short due to market failures discussed earlier. Research shows that public VCs play an important role as they have been shown to flow mainly to early stage deals, which private VCs tend to avoid due to the small deal sizes and low rates of return (Lockett, Murray, and Wright 2002; Pintado, de Lema, and Van Auken 2007; Beuselinck and Manigart 2007; Nightengale et. al. 2009). It has also been shown that public VCs are more consistent in their supply of risk capital to young companies as they do not typically follow the business cycle or exit alternatives, as do private VCs (Beuselinck and Manigart 2007). In so doing, government VC funds open up opportunities for investment, wealth and job creation in areas that market forces alone would have failed to stimulate (Haitian, Yi, and Gongmeng 2007). Despite their important role, government VC funds are among the most controversial policy areas and empirical evidence continues to confirm skepticism toward government-as-VC. Based on the U.S. experience, Florida and Smith (1993) propose that government should not try to act as VC, even if they hire private venture fund management.

When it came to the key VC activities of immersion and deep involvement in decision-making in the startups, pulling the plug on underperformers, and increasing financial commitment through further investments in perceived winners, state VCs fell short. They produced much lower rates of return and created few jobs at a very high cost (Florida and Smith, 1993). Similarly, one of the latest studies in the UK by Mason and Pierrakis (2011) studies the regional distribution of VC in the UK. The study finds poor performance of VC investments where public VC investments dominate. The poor performance is attributed to both the regional restrictions, which deprive the VCs from picking the most promising investment targets and the cap on the amount of capital invested, which may fall short of the growth needs of high tech companies and deprives them of follow-on funding (Pierrakis and Westlake 2009; Mason and Pierrakis 2011). Beyond the U.S. and U.K., Brander, Du, and Hellmann (2014) study venture capital deals from 25 countries that took place between 2000 and 2008. In this empirical work, the authors compare the performance of companies backed solely by government VC with that of companies backed solely by private VC and companies with a mix of government and private VC backing. The results show that companies with pure government VC backing are the worst performers among the three groups, with the lowest amount of funds raised as well as the lowest successful exit rates. The best performing companies are those that have mixed government and private VC backing, most likely due to the larger size of investment provided (Brander, Du, and Hellmann 2014).

Despite the above criticisms of government VC funds, many governments continue to employ this policy tool and best practices have emerged for government VC. The trend has moved from purely government financed VC funds to hybrids, which contain a mix of public and private capital (Nightengale et. al. 2009). China's SVGF (State Venture Capital Guiding Fund), Israels's Yozma program and New Zealand's Venture Investment Fund (NZVIF) are successful examples where best practices have paid off. The government fund only commits funds after private VCs have invested, and the government shares are privatized after a period of time (Avnimelech and Teubal 2004; Chen 2010; Lerner, Moore and Shepherd 2005). Similar initiatives abound in many countries, with varying degrees of impact and success (Nightengale et. al. 2009). The literature points to several key success factors for effective government VC funds. First, the allocated capital has to be big enough for the fund to have an impact. In this regard, Lerner (2009) discusses the optimal fund size and says that funds that are created with a few million dollars rarely succeed, because even if they can cover their basic expenses (office rental, administrative assistant, travel and salary of investment expert) very little is left to invest in entrepreneurial ventures.

When the invested amounts are small, the funds are not enough for the startups to really take off or grow, producing very little impact (Pierrakis and Westlake 2009; Mason 2009; Murray 1999). Although there are no hard and fast rules, minimum fund size in the U.S. has been estimated at around $60 million and around £50 million in the U.K.; otherwise, both the growing company and the VC fund suffer serious inefficiencies. The entrepreneur will have to spend time looking for the next round of financing instead of growing the company in which case the VC's equity holding in the company becomes highly diluted. This keeps the potential returns of hybrid VC funds lower than fully private funds (Nightengale et. al. 2009).

Second, it is very important to manage incentives effectively in the design and structure of a government VC fund, to avoid incompetent and politicized decision making (Mason 2009; Lerner 2009). Alignment of fund management incentives with objectives of the fund should follow the best practices of private VC funds, who have evolved ways to manage incentives of the fund management and the entrepreneurs in alignment with the fund investors (Da Rin, Hellman, and Puri 2011). Government interventions are warranted in cases where fund management is incompetent or investments are flawed (Lerner 2009).

Third, government VC funds need to be carefully designed to avoid inadvertent crowding out of private VC investments by competing with private VCs for deals. Crowding out happens when public VC funds are so large that all the attractive investment opportunities have been funded by the public funds, and private funds then have no incentive to invest. Crowding out may also happen when private funds have stricter criteria for funding young companies, such as the requirement of a return on investment of at least 30% (Lerner 2009). When competition among investors for investment-worthy entrepreneurial projects is high, increasing the supply of VC through government funds will likely result in crowding out private VC (Da Rin, Nicodano, and Sembenelli 2006). The empirical evidence on the crowding out effect of government VC funds is mixed (Da Rin, Hellman, and Puri 2011). Brander, Du, and Hellmann (2014) and Leleux & Surlemont (2003) find that government VC funds actually complement private funds and thus find no support for the crowding out hypothesis, using a wide-ranging sample of countries. On the other hand, Cumming and Macintosh (2006) and Brander, Egan and Hellmann (2010) show suggestive evidence of some crowding out effects in Canada and Wallsten (2000) in the U.S.

Fund of Funds

The fund of funds is an alternative mechanism for the government to supply risk capital while avoiding the incompetence and crowding out risks of government VC funds (Pierrakis and Westlake 2009). In this case, the government sets up a venture fund that invests in private VC funds, and matches a dollar of government investment for every one or two dollars of private investment. This matching is a critical success factor as it lets the market point to where government funds should go and ensures that capital will not be allocated to weak companies that would otherwise fail to attract private VC (Lerner 2010). Examples include Australia's IIF (Innovation Investment Fund), the European Investment Fund (EIF), the Yozma program in Israel and the NZVIF (Lerner and Watson 2008; McGlue 2002; Baygan 2003d, Pierrakis and Westlake 2009). Another key characteristic of successful fund-of-funds is their temporary nature and built in stop-loss provisions. The mechanism is meant to stimulate the emergence of the local VC sector and to accumulate a critical mass of entrepreneurial opportunities and investors as well as provide opportunities for capacity building and sharing of expertise to cultivate local talent.

Successful government VC programs have had their termination designed and planned from the first day of implementation (Avnimelech and Teubal 2004; Chen 2010). In some countries, governments may find it necessary to provide further incentives to attract private investors to match government funds. Is it acceptable that public investors accept a higher risk and/or a lower return on their investments than private investors? When this is done, the justification is that private investors need further incentives to invest in specific sectors or regions. For example, the government may give private investors protection on the downside, by bearing more than a proportionate share of the loss; or promising them a higher share of the upside returns; or by sharing in the operating costs of the fund (Mason 2009). This may go as far as the government handing outright subsidies in the form of free funds to reduce the VC's risks in investing in specific target start-ups, usually high tech ones (Chen 2010). Key risks associated with these types of government incentives include the distortion of market competition (McGlue 2002) and the crowding out of private VC (Da Rin, Nicodano, and Sembennelli 2006). Any policy that alters the risks and returns associated with VC investment may have very negative long-term ramifications (Mason and Harrison 2009).

Results and Discussion: Patterns of Success and Failure

This review has explained the main policy mechanisms used by governments in evolving a vibrant VC industry by tapping on the relevant theoretical and empirical work. The success of public policy initiatives for VC hedges on letting the market lead the process through matching public VC funds with private VC investment. This mechanism ensures that the public funds follow the market, which is much more capable of choosing winners than are public policy makers or academics. This matching process may require government programs to set tight policies and procedures, such as the stipulation that government will only invest after the private VCs have paid in their shares of registered capital (Chen 2010). This ensures that public VC funds leverage rather than replace private sector and institutional investor capital, and mobilizes a greater multiple from private VC funds. The degree of leverage should be an important metric in the evaluation of success of government programs, as was practiced in China (Chen 2010) and France (Dubocage and Rivaud-Danset 2002). This is key in avoiding one of the most common pitfalls of government VC programs, namely crowding out private investment (Mason 2009). Investing hand-in-hand alongside professional VCs will also ensure that the government VC capital requires similar rates of return as private VCs, thus avoiding the pitfall of competing with private VC by reducing the expected rates of return for entrepreneurs (Mason and Harrison 2002). It has also been emphasized that providing artificial incentives to mobilize private venture capital is quite risky.

When government programs alter the risks and returns structure of VC investment with the innocent intention of fostering VC activity, this may inadvertently lead to market and competition distortions that will have very negative ramifications in the long term (McGlue 2002). The Canadian LSVCC is a key example of a very costly government initiative that resulted in meager returns and that had lots of distortive effects (Cumming and Macintosh 2003). Moreover, the mixed objectives of the program, which included a political objective of satisfying the Labor Unions by allowing them a share of economic benefits, led to a governance structure with weak performance incentives and lots of agency costs. Cumming and Macintosh (2003, 2006) find evidence that the impressive mobilization of supply of VC funds through the LSVCC program has crowded out other VC funds that may not have suffered from the same inefficiencies and may thus have produced higher returns.

Other more subtle routes to market distortion may include setting restrictions on the investment decisions of the VC fund management, which increases the risk and the likelihood of commercial failure. Example of such restrictions are stipulating certain geographical areas for investment, as was the case in India in the 1980s and early 1990s, where the first VC firms were mandated to invest in their states and most of them were not successful (Dossani and Kenney 2002). In many cases, the policy makers have positive intentions behind these rules, such as trying to be fair in distributing support among regions, but they end up restricting the freedom of VCs and entrepreneurs so they backfire (Sunley et. al. 2005; Lerner 2009; Nightengale et. al. 2009). Empirical evidence shows that focus, building critical mass and clustering turn out to be more effective in fostering entrepreneurship and VC. The failure of regional targeting has been repeatedly documented in the literature and in practice (Mason and Harrison, 2002; Dossani and Kenney, 2002; Lerner, Schoar and Wongsunwai 2007; Nightengale et. al. 2009).

This also goes for national targeting. Studies of successful experiences with government supported VC funds repeatedly cite the encouragement of internationalization as a key success pattern, whether in the attraction of VC investors or in locating investee companies. The successful Yozma program of Israel was designed deliberately to attract foreign VCs and to forge local-international partnerships for building local talent and experience (Avnimelech and Teubal 2004). In this respect, an important success pattern entails making information available to international investors about the entrepreneurial environment in the country and the returns to previous investments; to local entrepreneurs about the expectations and standards of global VC investors; and to policy makers about the nature of this industry (Lerner, 2010). Furthermore, venture-backed companies that achieved success in Israel went public on the U.S. markets as an exit mechanism (Avnimelech, Rosiello and Teubal 2010). In Brazil, American VCs are the second largest group of VC suppliers after native VCs (Ribeiro and Carvalho 2008).

Government programs to support VC often fail to achieve their objectives due to incompetence, misconstrued incentives, political favoritism or organized capture of government subsidies (Lerner 2009). To avoid these pitfalls, successful government programs need to be designed with clear and specific objectives to start with (Pierrakis and Westlake 2009). Periodic monitoring and evaluation of policies and programs is necessary to ensure their effectiveness and should be the basis for decisions to continue or terminate a program (McGlue 2002). The problem with government initiatives all too often is that vested interests coalesce to fight the termination of such programs even when they are failing. 'Defining and adhering to clear strategies and procedures for venture initiatives, creating a firewall between elected officials and program administrators, and careful assessments of the program can help limit self-serving behavior.' (Lerner 2010, 263)

There is a need for policy makers and scholars to adopt a systemic view and an evolutionary perspective in looking at public policy for VC. As far as a systemic perspective is concerned, the various elements of public policy are examined to ensure their separate objectives are met effectively in addition to looking at the totality of policies as a systemic whole and examining the linkages to ensure positive reinforcement among the parts. 'If the practices, incentives and priorities are optimal at the level of individual organizations while the overall innovative performance of the system is sub-optimal, a systemic failure is said to be present' (Salmenkaita and Salo 2002, 188). In VC public policy, the importance of the systemic view is reflected in the integration of demand and supply side perspectives. Paying attention to factors that enable entrepreneurs to succeed, other than capital, such as legal, marketing and business strategy issues is a key success pattern that results from taking a systemic perspective. For example, research on Europe indicates that as a whole, VC was not in short supply in the late 1990s and early 2000s, but the problem rather was a shortage of good projects to fund (Da Rin, Nicodano, and Sembenelli 2006). However, research on France indicates that this country experienced a different scenario during the same time period and there was a real shortage in the supply of venture capital, which required policies to stimulate it (Dubocage and Rivaud-Danset 2002).

Furthermore, a systemic view entails that policy makers monitor closely the dynamics of the VC industry and target policy interventions to address market gaps. Lerner (2002a) documents examples of U.S. government initiatives that have had a tendency to ride the VC wave and direct investments to areas of technology that were considered 'hot' by VCs and already attracting too much VC investment. Lerner also documents, in the same study, examples of government interventions that took note of such biases in the supply of VC capital, and directed government support to promising companies in technology areas that were not creating VC hype (Lerner 2002a). The latter is the kind of systemic policy intervention that governments are looked upon to provide. Beyond considering both demand and supply of VC, adopting a systemic view also means fostering links and feedback mechanisms through various parts of the system. This is relevant in regional considerations in government policy. As explained earlier, it pays to concentrate government support in areas that have vibrant entrepreneurial ecosystems. However, some links with regions that have lower entrepreneurial and VC concentrations will allow commercially promising investors/entrepreneurs from those regions to access a matching investee/investor from active regions. Another aspect that highlights the importance of linkages in the system is the issue of the equity gap. Detailed field research has identified equity gaps in specific investment tranches (an example is Harding [2000] in her report on English VC). Linking the investors of the various investment tiers, namely seed/startup, growth/expansion and MBO/MBI tiers, will ensure that companies will find investors as they grow from one tier to the next. This will also help governments target their support funds and policy initiatives to where it is most needed rather than directing support to where it exacerbates the existing equity gaps (Harding 2000). In addition to the systemic view, an evolutionary perspective is also vital.

Examining the stages of development of a vibrant VC sector is an important lens to adopt, from initial conditions and pre-emergence to emergence and beyond. The issue of path dependency needs to be seriously factored into any policy analysis and recommendation. Each country has its own unique history, resources and conditions that will be different from the history, resources and conditions of exemplar countries, such as the U.S. (Guilhon and Montchaud 2006; Nightengale et.al. 2009). Policy design needs to be tailored to these idiosyncrasies if they are to be helpful. Moreover, policy makers need to understand the unique features of the VC industry and adopt a suitable time frame when evaluating policy initiatives. The VC process takes years and therefore judging a program prematurely for not seeing tangible results after a few years indicates a lack of understanding of the VC investment process and the dynamics of building a VC industry (Lerner 2002b; Lerner, Moore, and Shepherd 2005).

CONCLUDING COMMENTS

This literature review has presented an integrated framework for the content of public policies and programs utilized to promote an active VC industry and the corresponding entrepreneurial sector. Figure (1) shows the elements of the framework and their interconnections. The paper has distilled the framework through a comprehensive and in-depth review of the literature of public policy for venture capital. Public policies to enhance the demand for VC have been surveyed and include the stimulation of an entrepreneurial ecosystem, an optimization of investment laws and regulations that are relevant to the limited partnership legal form, and the use of government venture capital to jumpstart early stage investments and plug the financing gap. These demand side policies are augmented by various supply side mechanisms including the availing of exit mechanisms of venture capitalists through the development of secondary stock markets, taxation policies and government fund-of-funds. Patterns of success and failure gleaned from empirical studies on various countries reflect the importance of treating these policy elements as an integrated and mutually reinforcing system that is tailored to the specific context and history of a country. Among the study's limitations is the general level of analysis that overlooks the nuances and contextual particularities of specific countries, which has been necessary to provide a general and comprehensive framework. For future research, it would be fruitful to scrutinize the linkages between the various elements of the framework using a systems methodology and to test the interplay of relations between the different elements.

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BIOGRAPHY

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VIABILITY OF A PEER-TO-PEER LOAN MARKET FOR STUDENTS AND THE UNDERBANKED

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ABSTRACT

It is difficult to achieve financial stability without access to traditional banking services. "Unbanked" and "underbanked" groups therefore face significant financial hurdles, making them targets for predatory fringe lenders. In this paper, we present the results of a credit survey given to college students and low-income residents of Tacoma, Washington. Our first goal with this survey was to characterize credit use and access among these groups. Given that information, we then could assess the feasibility of developing a viable peer-to-peer (P2P) platform for them that would be a consumer-friendly alternative to fringe lending. We find that there is a need for small-dollar financial assistance, even within our relatively affluent student sample. We discuss the possibility of creating a student P2P market to help them, working through Four Horsemen Investments, a student-run 501(c)(3) not-for-profit organization. Developing such a market on a small scale would be a precursor to expanding it to the local community, where it could help at-risk, low-income families.

JEL: G21, G23, G10

KEYWORDS: Peer-to-Peer Lending, Payday Loans, Fringe Credit

INTRODUCTION

Ignorance may be bliss elsewhere, but not in personal finance. For consumers, not understanding the terms of loan products can be devastating, especially with fringe, "predatory" loans. Given the dangers, these sorts of loans are receiving renewed attention at both the federal and state levels. For example, in a speech on March 26, 2015, President Obama warned payday lenders that if they made their profits by "trapping hardworking Americans in a vicious cycle of debt, then you need to find a new business model" (Korte, 2015). Meanwhile, in Washington state, the legislature is considering a bill to allow payday lenders to charge $495 in interest on a six-month, $700 loan—a loan that would cost borrowers "only" $38 if repaid in two weeks. Opponents charge that the idea is "a travesty"—a way "to make more money on the backs of poor people." A prime sponsor of the bill counters that "…a lot of people don't like the fact that we have a lot of low-income people who can't make ends meet, and so there has to be a product like this" (Conklin, 2015). But does there have to be a payday loan product? In 2010, the U.S. Treasury sponsored a convening to consider this question. Participants enumerated a research agenda to inform policy on small-dollar, short-term credit. In this paper, we present the results of a survey based on that agenda. Our immediate goal with the survey was to characterize the financial sophistication and credit use of students and lower-income residents in our community, two groups potentially vulnerable to financial shocks and therefore to fringe lending. Ultimately, though, we hope to develop an alternative to payday products for our community, based on a not-for-profit, peer-to-peer model. We believe that such a model could empower participants in a way that fringe lending cannot.

We find that our survey respondents have good access to traditional banking products. Nonetheless, respondents in both groups are subject to financial distress. Both groups also exhibit significant ignorance about the features and terms of the products they use. Distress with ignorance is a combination dangerous to financial health. We therefore conclude that members of our community would be well served by a new type of product to address their credit needs. Recent developments in the traditional peer-to-peer (P2P) market may make it a possible solution for community members. For our students, however, we are developing a different sort of model, based more on the altruistic principles underlying our not-for-profit company, Four Horsemen Investments. We sketch out our proposal in our conclusions. The paper proceeds as follows. In the next section, we review the literature on both fringe credit and peer-to-peer lending. In the following two sections, we describe our survey and its results. Finally, we summarize and describe our (work-in-progress) proposed student solution.

BACKGROUND AND LITERATURE REVIEW

We are concerned with developing a peer-to-peer alternative to payday loans. Thus, our work is informed by the literature on fringe credit use among populations underserved by mainstream banking, and by the growing literature on for-profit P2P lending. We review both in this section. Payday loans are small, short-term, unsecured loans. They can carry interest rates much higher than those charged by traditional lenders. For example, in Washington state, borrowers currently can borrow up to \$700 or 30% of their gross monthly income—whichever is smaller—for up to 45 days. The maximum fee is 15% for loans up to \$500, or 10% on larger amounts (DFI, 2013). Thus, for a \$700 loan, a borrower would pay \$70 in interest after 45 days, an APR of 81.11%. If rolled over the maximum of eight times per year, the borrower would pay a total of \$560 for use of \$700 for 360 days (assuming he was able to pay the interest charges out of other funds at each rollover date). The eight-loan maximum in Washington was set in 2009. Since this restricting legislation was passed, Washington borrowers have taken out 73% fewer loans: from 3.2 million in 2009 (\$1.3 billion) to 856,000 loans (\$331 million) in 2013 (Brunner, 2015). New legislation, which passed the state senate on March 10, 2015, would eliminate two-week loans and replace them with installments to be paid off over several months. The interest charge for a \$700, six-month loan would be \$495. Supporters of this bill claim it will be better for low-income families to have smaller payments stretched over a longer time. Current state law already allows borrowers to request installment agreements for no additional fee, but precludes borrowers with these arrangements from taking out additional loans.

Restricting rollovers can make a real difference for fringe borrowers (Bhutta, 2014). The Consumer Financial Protection Bureau has found that 80% of payday loans are rolled over, and that the average payday user takes out ten loans per year (Burke, *et al.*, 2014; see also Melzer and Morgan, 2105). Many borrowers fall into the pattern of borrowing monthly; these consumers stay in debt for an average of eleven months longer than do those borrowers who do not rollover monthly. Their fees and interest often end up being more than their principal (Burke, *et al.*, 2014). Who would want such a loan? Extensive research on payday credit has shown that it is used frequently by working-class people with access to traditional credit sources like credit cards. However, these borrowers may turn to fringe providers when their credit lines are exhausted or deteriorating quickly (Lawrence and Elliehausen, 2008, Agarwal, Skiba, and Tobacman, 2009). In addition, borrowers may come from cultures that distrust banks, or they may wish to avoid the "attitude" that they get at mainstream providers (Buckland and Martin, 2005).

They may feel deterred from seeking mainstream credit, afraid that they might be denied, and may appreciate the quick and straightforward process of a payday lender (Lawrence and Elliehausen, 2008, Melzer, 2011, Skiba and Tobacman, 2008). The reluctance of some small-dollar consumers to borrow from banks is mirrored by most banks' unwillingness to lend to them. Buckland, Hamilton, and Reimer (2006) suggest that the fixed costs of small-dollar lending are simply too high to allow a profitable solution for traditional lenders. Even if we were to stipulate that (and we do not, given the FDIC's success with its Small Dollar Pilot Program for banks), we need not conclude that fringe loans are the only alternative. For example, Buckland, *et al.* (2006) suggest a "stepped" approach to microcredit, in which community-based organizations identify people who may need help, give them short-term loans to substitute for fringe credit, then educate them and move them toward a traditional banking relationship. The key to this plan is a partnership among community charities, governments, and banks, which allows some of the relatively high costs of small-dollar lending to be borne by not-for-profits. If we accept the view that banking services should be considered utilities, then such subsidies are not unusual.

We believe that peer-to-peer lending may offer another alternative to fringe credit. To motivate the idea that formal peer funding could be an alternative source of small-dollar credit for payday borrowers, we now review some of the salient research from the growing literature on these novel loans. The two for-profit U.S. P2P platforms, Prosper and Lending Club, are electronic consumer finance marketplaces. They started as platforms through which individual borrowers and lenders could bypass traditional intermediaries—potentially lowering rates to borrowers while improving returns to lenders (GAO, 2011, Brill, 2010). As the marketplace has evolved, however, more institutions have entered as lenders. We will comment on the implications of this evolution after describing the traditional structure of the platforms.

Borrowers and lenders on P2P platforms are anonymous. Borrowers post listings—requests for funds—which contain a combination of hard data and soft data. Hard data include traditional underwriting metrics (e.g., debt-to-income ratios, income, and credit utilization), some of which come from the borrower's credit report and some of which are borrower-reported and unverified. Soft data include narrative descriptions of the purpose for the loan and pictures chosen by the borrower. Individual lenders have proven adept at interpreting this soft data, and are able to use the pictures, descriptions, and social network information in a listing to infer about one-third of the incremental information that would be provided from the borrower's credit score. They also are able to forecast default from pictures alone (Iyer, *et al*., 2009, Freedman and Jin, 2008, Duarte, *et al.*, 2009). Thus, despite the inherent potential for adverse selection and moral hazard (Freedman and Jin, 2008, GAO, 2011), individual lenders can screen loans effectively, even though they are amateurs. The fact that they use their own money undoubtedly provides underwriting incentives that professionals do not have. (Compare these incentives to those of the SOES bandits in the OTC equity market, who also eliminated agency issues by internalizing them. See Harris and Schultz, 1998.)

Soft data of particular relevance for us are the endorsements that can come from "friends" or group members. Groups on Prosper are affiliations of users, based on offline links like alumni or employment ties. Any Prosper member can join or form a group, but borrowers can belong to only one group at a time. While groups are not responsible for their members' loans, they can monitor their performance. The important feature here is that group leaders know who their members are—not just their screen names. They thus can vet members' listings before they are funded, and monitor them afterward. (See Berger and Gleisner, 2009, for a discussion of P2P groups.) "Friendships" are even less formal than groups. However, again, friends actually know each other's identities. Thus, friends may also be able to perform intermediation by vetting and monitoring.

Lin, Prabhala, and Viswanathan's (2011) evaluate the impact of friend endorsements by classifying them based on the intensity of the relationship: for example, they distinguish "friends" who are simply registered on Prosper, friends who are Prosper borrowers or lenders, and friends who are lenders and who actually bid on the given listing. The authors show that listings associated with a meaningful friend endorsement are more likely to be funded, pay significantly lower rates, and are less likely to default. (See also Berger and Gleisner, 2009, for similar results.) When the friends are lenders, the results are even more striking: borrowers with lender-friends are almost twice as likely to be funded, at interest rates approximately 60-150 basis points below those without lender-friends. They are also about 9% less likely to default. Finally, when the lender-friends actually bid on a listing and win, borrowers pay 200 bp less and are about 11% less likely to default. Results for groups are similar. Berger and Gleisner (2009) show that borrowers affiliated with groups can borrow more, and at lower rates. They also are less likely to default, despite having lower average credit grades and higher average indebtedness. When a group leader bids on a member's loan, the loan rate falls by 156 bp, all else equal. Everett (2010) also shows that bids by group members affect loan rates, and describes the effects as “negative, very large, and very significant.”

Lenders who incorporate such easily observable signals into a listing screen can significantly improve their P2P portfolio’s performance (Klafft, 2008). As noted above, friend and group endorsements certify the borrower and alleviate information asymmetries (Lin, *et al.*, 2011, Berger and Gleisner, 2009). But there is more to these friendship signals than just the possibility for vetting and monitoring—relationships provide the opportunity for social enforcement of the loan terms. Since friends and group leaders know the identity of the borrower, they can link default with an actual person. Borrowers who must bear the “social stigma” of default may be more conscientious about repaying. This is true even when borrowers use the platform very infrequently: La Ferrara (2003) shows that the “non-anonymity” of groups enforces social contracts even when individual actors participate only in one iteration of a repeating game. The social costs of default are greater the closer the relationships involved are—for example, when a loan is funded by a lender-friend who is active on a P2P platform (Lin, *et al.*, 2011), or when a group is composed of members who have real-world ties (Everett, 2010).

On Prosper, for one, the emphasis on “group” lending has been a casualty of the institutional evolution of the market. Nonetheless, the social aspect of the market persists. Both Lending Club and Prosper continue to hype the “human face” of their lending, both because it resonates with borrowers and because it encourages repayment (*Economist*, 2013, Cortese, 2014). Thus, even though institutions now dominate the “dentists, dabblers, and stay-at-home moms” who have been the traditional lenders (Cortese, 2014), there is still an inherent element of altruism on the platforms. This, combined with the scale and the speed that institutional money provides, may actually enhance P2P’s appeal to cash-strapped borrowers. To see if it can help our borrowers—the students and low-income residents of Tacoma—we turn now to the results of our survey.

DATA AND METHODOLOGY

Our survey was motivated in part by a convening held by the United States Department of the Treasury in 2010, *Developing a Research Agenda on Small-Dollar Credit and Financial Empowerment*, whose goal was to “inform policymaking that can address the challenges related to meeting the small-dollar credit needs of underserved populations” (Treasury, 2010). To frame our study, we chose nine of the “demand-side” questions identified by the convening’s participants. These questions concerned the relationships among various financial products; the ability of certain populations to access traditional banking services and to accumulate savings and build wealth; and propensity for certain groups to rely on informal lenders, like friends and family, to meet their credit needs. (See Livingston, 2013 for a complete description of the survey instrument.) Our survey focused on students and relatively low-income people from Tacoma, Washington. (Tacoma is the third largest city in Washington state, with about 200,000 residents.) Both of these groups could be at risk for negative outcomes from fringe credit use, as discussed in the Treasury Department’s convening. The student sample has several parts.

The majority of our student data comes from a 185-respondent sample from our small, liberal arts undergraduate university. The sample was drawn using stratified random sampling, with courses as the sampling unit. Our university’s core curriculum is organized around five “ways of knowing” (mathematical, natural scientific, social scientific, humanistic, and fine arts “approaches”), so we sampled across this taxonomy at each grade level. This gave us 20 approaches/grade combinations. Every course that fit a combination was listed, and we chose a course randomly from that list. In some cases, we could not sample our chosen course (for example, because of timing or instructor concerns), so we chose again. We ended up sampling 12 of our 20 cells, for a total of 14 courses (we had three business courses in one social science cell, but only one course each in natural sciences and humanities). Every student in each randomly chosen class was sampled. Sampling occurred during the 2012 and 2013 school years. We augmented this sample with 63 respondents from additional business courses from the 2014 year (required, elective, and university-wide outreach courses), increasing the power of our tests without altering the qualitative results or the demographic profile of the respondents. We call the 248-student combination of the stratified sample and this addition the "UPS sample." Compared to the overall university, we have significantly more males and more upperclassmen. However, the vast majority of the sampled students conform to the university's demographic: they live with their parents when not at school, have access to a car, have never been married, and have no children. Their families make more than $50,000 per year and own their own homes. This is the profile of the student for whom our initial P2P outreach would be targeted.

For the second part of the student sample, we surveyed 21 graduate and 22 undergraduate finance students from a larger private university, as well as three volunteers from the Tacoma branch of the University of Washington. While this clearly was not a random sample, it did give us the opportunity to consider the broader appeal of a P2P initiative. In this sample, 59% did not live with their parents, 76% were married, and 90% owned their own homes. They were otherwise similar to the UPS sample. (See Table 1.) The rest of our respondents, whom we will call the "community" sample, came primarily from financial assistance events held at the Goodwill Milgard Work Opportunity Center in downtown Tacoma. The majority of these respondents attended the Volunteer Income Tax Assistance (VITA) Super Saturday event, which is the kickoff of tax preparation season. People come to this event to have their federal income taxes prepared for free; to participate, they must have incomes below the IRS's cutoff (around $51,000). Most of the rest of the sample came from a "Financial Fitness Fair," a free community outreach event focused on financial literacy. (The final three respondents were visitors to the Goodwill outlet store adjacent to the Milgard Center.) Again, this is not a random sample. Not only did we use volunteers from a specific income group, we also surveyed people who knew about a free tax preparation service and who were motivated to come on the first possible day. Thus, our results are simply suggestive.

The community respondents' demographic profile is broadly consistent both with Tacoma/Pierce County's and with the typical Pierce County VITA client. (These reference figures, from city-data.com and the Pierce County Asset Building Coalition's 2012 VITA client survey—included in the intake process for every VITA client—are included in Table 1 for reference.) It is, however, very different from the student sample. The community sample has high proportions of women (70% v. 43% for the student sample), people over 40 (83%, compared to 89% below 23 in the student sample), and people earning less than $15,000 per year (52% v. 2%). 86% of people in the community sample have children and 77% have been married; only 2% of the students are married, and less than 2% have children. Of course, none of these differences in surprising, given our sample procedure. They may have implications, however, both for payday and peer-to-peer loan use.

Our community sample characteristics are comparable to the profiles of payday loan users. For example, women are more likely to use payday loans (Skiba and Tobacman, 2008), as (perhaps correspondingly) are people with children and those who are divorced or separated (Elliehausen and Lawrence, 2001). Payday borrowers have lower rates of homeownership (Skiba and Tobacman, 2008, Lawrence and Elliehausen, 2008), and generally have annual incomes between $15,000 and $50,000 (Melzer, 2011, Flannery and Samolyk, 2005). (In Washington state, the average monthly income for payday loan users is $2,822; DFI, 2011.) Skiba and Tobacman (2008) find that African Americans and Hispanics are more likely than other groups to use payday loans. Finally, Campbell *et al.* (2012) find that financial literacy is lower among the relatively young and old, a finding germane to both our samples. Thus, our community sample, while not random, does reflect the demographic characteristics of the fringe-loan users we are trying to characterize.

Table 1: Sample Characteristics

	Students	Community	Vita Survey	Pierce county/ Tacoma
SEX				
male	57%	30%	38%	49.4% (2011)
female	43%	70%	55%	51%
AGE				
< 23	93%	4%		
23-30	7%	9%		35.1 (2011 median)
31-39		4%		
40-49		30%		
50-59		26%		
60+		26%		
INCOME				
less than $15,000 per year	1%	52%		
$15,000-$50,000 per year	18%	48%		$48,673 (2009 median)
above $50,000 per year	81%	0%		
HOME OWNERSHIP				
own	93%	41%	26%	
rent	7%	59%	49%	
HAVE CHILDREN				
yes	2%	86%		
no	98%	14%		
MARITAL STATUS				
never married	97%	23%		29.3% (ages 15+)
separated	0%	0%		2%
divorced	0%	27%		14%
widowed	0%	14%		7%
married	3%	36%		47%
ETHNICITY				
Caucasian	78%	48%	41%	61%
Black or African American	3%	24%	30%	11%
Hispanic	4%	8%	9%	11%
Asian or Pacific Islander	13%	8%	11%	8%
American Indian or Alaska Native	0%	12%	4%	2%

This table characterizes our sample and compares it to earlier community surveys. Our sample has two parts. The student sample has almost 250 respondents, the vast majority of whom came from an undergraduate liberal-arts university. The community sample was drawn from financial outreach events at a downtown Tacoma, Washington Goodwill. The VITA and Pierce County samples are from earlier studies of the local populations, and are presented for comparison. There are significant differences between the student and community sample. The community sample reflects the type of demographic characteristics that are common among payday loan users.

Our community itself is also consistent with prior findings about the *supply* side of fringe lending, which show that fringe lenders tend to concentrate in less affluent and minority neighborhoods. (See Sawyer and Temkin, 2004, Li *et al.*, 2009, Bhutta, 2014. For a behavioral explanation linking lower income to impatience, see Thaler and Shefrin, 1981.) As part of an ongoing study of the supply of fringe credit in Tacoma, one of the authors worked with a city representative to map pawnshop and payday lenders against the racial makeup of local neighborhoods. We also included temporary agencies in this mapping, since their presence may indicate that local communities face financial distress. (The maps are available from the authors upon request.) The results show that fringe providers clearly cluster in minority and less affluent neighborhoods. Our community therefore appears to be consistent with the results of prior studies on both the supply and demand for fringe loans, providing context for the evaluation of our student sample.

RESULTS AND DISCUSSION

Our goal is to create a peer-to-peer solution for our community, starting with our own students. However, we needed to verify that they need help. Ours is a small, private, liberal arts university. Tuition is almost $43,500 per year, with a total cost of annual attendance of almost $58,000. As is borne out by our own sample's demographic data, our students have traditionally come from affluent households. Nonetheless, about 60% of our students have demonstrated financial need, and only 18% of them have that need fully met by current university programs (CollegeData, 2015). In addition, the university has recently established the "Tacoma Public Schools Commitment," which states that we are "committed to meeting the full demonstrated financial need of admitted Tacoma Public Schools applicants for first time, first year undergraduate study beginning with the 2015-16 academic year" (UPS, 2015). Thus, we expected that there would be an opportunity for us to provide students with incremental financial assistance.

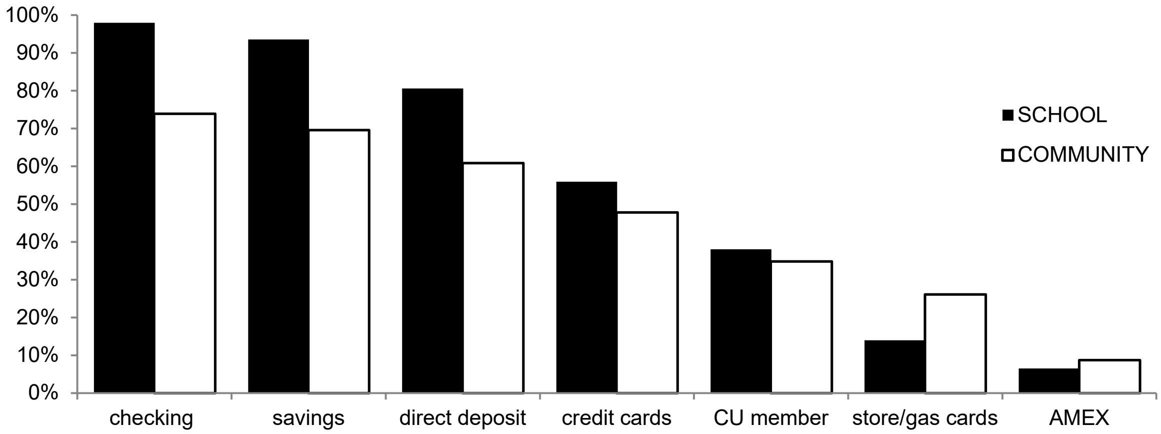
In this section, we present evidence that bears that out. There is financial distress in our student sample. In addition, despite their access to traditional banking products, our students display a disheartening level of ignorance about those products. In contrast, the community group was (slightly) better informed, but faced more significant financial problems. We discuss results from both groups below. We start with the access question, since one of the ways we observe distress is through the ways respondents (mis)use their traditional accounts. Both school and community respondents used traditional banking and financial products. (See Figure 1.) Significantly more than half of the community sample had checking and savings accounts, and almost all students did. (98% of students had checking and 94% savings—strongly significantly more than the community group, with $p << .01$.) Students were also significantly more likely to have direct deposit arrangements into those accounts.

Overall, the groups also were similar in their use of plastic, with about half having credit cards and less than 10% having an American Express charge card. The community group, though, was more likely to have department store or gas cards—a result driven by the financial fitness fair participants, half of whom had store cards (v. about 13% for both students and the VITA subsample; $p \approx .06$). Although they used demand and time deposits, only about a third of each group got them from credit unions. Our mapping research showed that there are numerous credit union branches scattered throughout our area, especially in those neighborhoods with below-median incomes—areas served also by fringe lenders. (These maps are available on request.) Most of these credit unions require nothing more for membership than Washington residence. Nonetheless, members of both our community and student samples are much more likely to use large, for-profit banks for their checking and savings accounts.

Not appreciating the benefits of not-for-profit credit unions may reflect a general lack of sophistication among our sample respondents. There is other evidence in the sample responses that illustrates the divide between access to financial products and efficient use of them. Many of our respondents misunderstood and misused the products they had, and were unable to avoid financial distress in spite of their access. First, the good news: well over 70% of all respondents checked their bank accounts at least once a week. The bad news: about 20% had bounced a check (actually, an average of two) within the last year. This was especially a problem for the financial fitness fair respondents, 43% of whom had recently had an overdraft. Overdrafts are substitutes for payday loans (Morgan and Strain, 2008, Melzer, 2011), so we see possible vulnerability to fringe lending within our sample.

Another payday-loan substitute is a credit card. Lawrence and Elliehausen (2008) and Agarwal, Skiba, and Tobacman (2009) link payday loan use to the credit rationing faced by people close to their cards' limits. Among our respondents, 11% of our student sample, 38% of the full community sample, and fully 80% of the financial fitness fair subsample reported having been so close to maxing out their cards over the prior year that they had been unable to use them. Even for those who still had room on their cards, the level of ignorance about the cards' terms did not inspire confidence, especially for our students. For example, while students were more likely to pay their balances off in full every month (69% v. 33% for the community sample; $p < .01$), the vast majority of them (85%) had no idea what the APR on their credit card was. Even fewer knew their over-limit or cash advance fees. In the community sample, the financial fitness fair respondents were better informed than the VITA group, perhaps because of prior difficulties. Nonetheless, about two-thirds of our community respondents could not describe their cards' rates or fees.

Figure 1: Use of Credit Products in Our Student and Community Samples



This figure summarizes our respondents' access to traditional financial products. In most cases, the student sample (dark bars) reflects heavier use, with the exception of gas/store credit cards and Amex charge cards Nonetheless, this evidence is consistent with that of prior payday-loan studies, which show that borrowers who use fringe credit often also have access to more mainstream sources.

Bouncing checks and maxing out credit cards is clear evidence of financial distress. To learn more about our respondents' financial challenges, we followed Elliehausen and Lawrence (2001), Skiba and Tobacman (2009), and Melzer (2011) in asking respondents if they had recently been turned down for credit, had been reluctant to ask for credit for fear of being turned down, had unexpected medical bills, or had an immediate cash need that they could not meet. The community sample reflected more financial distress, with about half reporting these sorts of problems. The area of least concern—and the one category with less than a 50% affirmative response—was medical bills, at about 40%. In all cases, the financial fitness fair subsample reported more problems, especially on the generic needing-cash question (to which 78% responded affirmatively). (The p-value for difference in proportions was about 4% for this question; for the other questions, our small sample size gave us too little power to detect differences.)

There was distress among the student sample also, although in all cases they reported significantly fewer problems than did the community members. Nonetheless, 21% of students reported generic cash-flow problems, with those problems being more acute for students in public schools or graduate programs. These results suggest respondents' vulnerability to the sales pitch of payday lenders, who assert that they help consumers meet liquidity shocks and smooth consumption. In fact, 38% of our community respondents have used payday loans.

The majority used their loans for rent; the next largest category was utilities. Borrowers were more likely to consider asking friends or family for money than to try traditional alternatives such as banks loans or credit card advances; they ultimately chose payday loans for their speed and privacy. While reporting overall that they were "neither satisfied nor dissatisfied" with their payday loans, they did complain about their high cost and their making it "too difficult to get out of debt." In our student sample, only one respondent had used a payday loan. He was atypical of our student sample: married, with children, renting his home, and earning between \$15,000 and \$50,000 per year. Thus, demographically, he was much closer to the community sample than to our student sample.

To explore other ways respondents met their needs for cash, we asked if they had ever borrowed from friends or family. While both Bertrand and Morse (2009) and Lawrence and Elliehausen (2008) addressed borrowing that was not arms-length, they did not distinguish friends from family. In our community sample, the distinction did not seem important: about half of those respondents reported borrowing from both friends and family. (There was significantly higher rates of borrowing in both categories from the fitness fair respondents, two-thirds of whom had borrowed from friends and 78% of whom had borrowed from family.) In the student sample, however, the distinction between the two groups was critical. There, more than twice as many had borrowed from family (45%) as from friends (22%).

To learn more about our students' borrowing, we created a "distressed" subsample from the 248-student UPS sample by isolating the respondents who answered "yes" to any of the four distress questions described above. (We chose to focus on this sample since our P2P initiative is meant to benefit them.) Ninety-one students (37%) were in this subsample, 54 of whom had answered affirmatively to one of the four questions, 25 to two, 10 to three, and 2 to all four. Members of this subsample were significantly more likely to have bounced at least one check over the last year (29% v. 15%), and to have bounced more (an average of 2.89, with a maximum of 20, compared to an average of 2.17 with a maximum of 12 for other respondents).

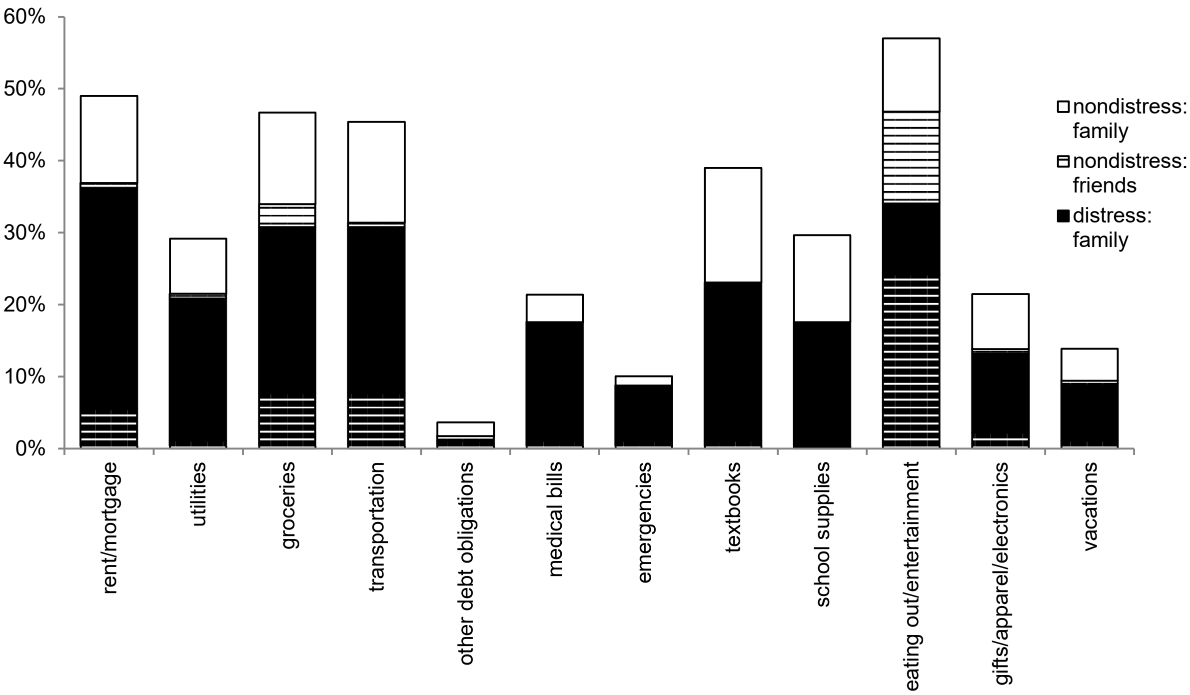
Members of the distressed subsample were significantly more likely than the "nondistressed" complement to borrow from friends (36% v. 18%) and family (64% v. 38%). However, both groups showed similar patterns in their borrowing: they went to their families for necessities, and to their friends for fun. (See Figure 2.) Twenty-four percent of respondents in the distressed sample borrowed from friends for eating out or entertainment, three times more than borrowed for the next largest categories (transportation-related expenses and groceries, each at 8%).

In contrast, 31% of the distressed sample borrowed from their families to make a rent or mortgage payment. About a quarter asked family to help with textbooks or other school expenses. When parents provided credit cards to students, there was still a focus on necessities: both groups used the cards for textbooks, family emergencies, school supplies, medical bills, transportation, and groceries. Members of the distressed group were more likely to have a parental credit card (56% v. 49%), although the difference was not significant. Given the results discussed in this section, we believe that there is a need for small-dollar, short-term credit in our community. Even the relatively affluent students at our university exhibit signs of financial distress and a lack of financial sophistication. Their need for help with basic expenses like rent makes them a potential target for payday lenders, 70% of whose loans help borrowers with basics (Conklin, 2015). We therefore believe that a peer-to-peer approach managed by a not-for-profit like Four Horsemen Investments can make a real contribution. We outline our proposal, and provide summary comments and suggestions for future work, in the next section.

CONCLUSIONS

The Consumer Finance Protection Bureau has payday lenders squarely in its sights, supported by a president who believes that "One way to make paychecks go farther is to make sure middle-class Americans don't get ripped off," and that if payday lenders cannot help make that happen, they "need to find a new way of doing business" (Korte, 2015). Fringe lenders decry such regulatory attention, asserting that it will restrict limit consumers' credit options. Nonetheless, the options they seem to favor come with exceptional costs to borrowers, as the current $495 fee/$700 loan proposal in Washington illustrates. We agree with the consumer advocates who believe that fringe credit can be a debt trap. We also believe that peer-to-peer loans may offer a possible alternative, especially if not-for-profits can provide some of the high-fixed-cost screening activities that make small-dollar, short-term loans unattractive to traditional lenders. We are therefore encouraged by the ongoing evolution of the online P2P marketplaces, where infusions of institutional capital are vastly increasing the supply of funds and the scope of lending. Institutional involvement also speeds up the online platforms' funding processes, which is essential if P2P is to compete with fringe lenders. Many payday borrowers cite speed as one of the most important factors in the decision to get a payday loan: payday shops are open late, and borrowers can apply and then walk right out with their cash. In contrast, early Prosper loans could take 10 days or more to fund. Now, listings that might have stayed open for weeks, waiting for individual lenders' bids, are snapped up in minutes.

Figure 2: Comparison of Borrowing by Distressed and Non-Distressed Student Subsamples



From our 248-student UPS sample, we created a "distressed" subsample by isolating the 91 respondents who answered affirmatively to at least one of four credit-rationing questions. This subsample is represented by the darker blocks at the bottom of each column in the figure. The rest of the UPS sample formed the "nondistressed" complement; they are represented by the lighter blocks at the tops of the columns. For each subsample, respondents who borrowed from family are shown as solid blocks; those who borrowed from friends are shown as lined blocks. The first 5 columns from the left depict daily necessities; the next 2 depict urgent, unexpected expenses; the next 2 depict school expenses; and the last 3 depict discretionary expenses. Overall, distressed students were much more likely to borrow from both friends and family. Both subsamples borrowed from family for necessities and from friends for fun.

However, for students, the online P2P platforms fail in two ways: they do not offer small enough loans, and they have become too divorced from the social enforcement mechanisms of traditional microfinance. We want to create a program for our students that would allow them to work collaboratively to avoid getting caught in the fringe loan trap. The results of our survey show that there is need for such a resource among our students, despite their good access to traditional banking products. The solution we are developing will be run by Four Horsemen Investments (4HI), a 501(c)(3) nonprofit corporation run by University of Puget Sound students. This organization's mission is to promote financial literacy. Student members have been running a portfolio of traditional P2P loans on the Prosper and Lending Club platforms since 2009.

The 4HI Peer-to-Peer Student Network would be a new initiative helping to facilitate financial collaboration among students. Like payday loans, our financial assistance would come in small amounts, but unlike fringe and current P2P products, we intend to draw explicitly on the traditional microfinance tenet of social circles. As we currently envision the initiative, students would contribute funds to be redistributed to other students. The suppliers of funds would be able to specify how their money would be allocated, either to one of their social circles or to the campus as a whole. Students requesting funds from the program would need to be a member of at least one funded social circle. In keeping with 4HI's altruistic ideals, we would charge no interest. Instead, these would be micro-grants, whose repayment we would like, but which we do not expect. Obviously, giving away money cannot be the ultimate solution to the fringe credit problem. Nonetheless, the outcome of our initiative may inform new sorts of approaches that connect peer-to-peer lending and philanthropy. On an intimate enough scale, P2P arrangements can leverage both social stigma (to motivate borrowers) and altruism (to entice lenders). Four Horsemen Investments wants to develop this idea by starting with students, because their needs are most familiar to us. If this platform is successful at the University of Puget Sound, we hope it will spread to other campuses in the surrounding area and eventually to the entire community.

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PARTICIPANT MOTIVATIONS IN A SOCIAL MEDIA COMMUNITY PAGE

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ABSTRACT

Recently there has been explosive growth in both the global reach and easy access to online social media content. However, people's motivations for using social media vary considerably from individual to individual. Attempting to gain a greater understanding of what motivates people to use social media is of interest to content providers and administrators of social media platforms such as online community pages, who wish to appeal to their current members and attract a wider audience. Means-end theory explores the abstract relationship between a product's attributes, the consequences or benefits gained from that product, and personal values guiding individuals to use a particular product. This exploratory study uses soft-laddering interviews and a hard-laddering survey method to create means-end chains and a subsequent Hierarchical Value Map. We use this information to illustrate the shared values of a sample of group members of an online community page. The results of the study were used to understand individual's motivations for joining the page. The study concludes with practical suggestions for marketing the community page to appeal to the current member's shared values. We believe this approach will create a wider and more loyal group to the page.

JEL: Y90

KEYWORDS: Means-end Analysis, Social Media, Hierarchical Value Map, Laddering Theory, Marketing Strategy

INTRODUCTION

According to Reid (2009), a primary factor driving both the increasing popularity of the internet and the day-to-day use of the internet is social media and social networking sites (SNS). Kaplan and Haenlein (2010) define social media as, "a group of internet-based applications that build on the ideological and technological foundations of Web 2.0, and that allows the creation and exchange of user-generated content." Social media includes web-based and mobile based technologies which are used to turn communication into interactive dialogue among organizations, communities, and individuals. For many individuals around the world today, social media is universally accessible and daily interaction on social media websites such as *Facebook* or *MySpace* is possible via several forms of online communication tools such as smart phones, laptops or tablet computers.

Social media is highly interactive and users share and process information with others (Aula 2010). Social media offers a platform for serving customers, listening to customers, monitoring customer feedback, encouraging dialogue, and establishing connections. Social media is unstructured and focused on generating conversation and building community and may also have an influence on purchase decisions (Nair 2011). Social media network sites allow individuals to create public or semi-public profiles within a system, to identify other individuals that they share a connection with and to view information about their connections within the system (Boyd & Ellison 2008).

It is important for online or social media marketers and creators of online community content in general to understand what motivates people to use one website over another or become fans of one community page but not the next. A deeper knowledge or contextual understanding of consumers and how they make decisions represents an important weapon to marketers and creators of community pages. Therefore, important questions remain regarding the motivations to use and participate in community pages. Using a real *Facebook* community page called, *'i-Ride Taiwan'*, as the basis for this exploratory investigation, this study explores motivations for joining the page from the member's personal values obtained through the levels of abstraction of the community page (from the page's attributes, to consequences or benefits that people receive from joining the page and the values that those people have which drives their commitment to the page) via a means-end chain model (Gutman, 1982). We analyze the results on the consequent hierarchical value map (HVM) drawn up from the raw data.

The remainder of the paper is organized as follows. In the following section, we present a discussion of related literature and studies about Social Media Community Pages and the Means-end chain theory. Next, we structuralize our research methodology consisting of research framework, the subjects participating, the method of data collection, and the analysis methodology. The paper continues with a summary and discussion of the empirical results. Finally, the paper closes with some concluding remarks.

LITERATURE REVIEW

Social Media Community Pages

Social media at large and social networking websites in particular have enormous scope for audience reach and content diversity. For this reason, there is potential for significant growth in both the number and variety of social media websites or social network sites on the worldwide web. Blakeman and Brown (2010) pointed out that collaboration and community are the fundamental driving characteristics of Web 2.0 development and are key features of increasingly popular and sophisticated social communication services or channels like social media websites such as *Google+, Facebook*, and *LinkedIn,* and interactive online communities including *Wikipedia, YouTube*, and *Flickr*. According to Kaplan and Haenlein (2010) the Forrester Research Institute found that, "75% of Internet surfers used social media in the second quarter of 2008 by joining social networks or reading blogs across numerous demographics". Today, *Facebook* is the most visited website and nearly 11% of the world population has a *Facebook* account. Despite the growth in social media, managers are still unclear as to how it can be used to benefit their organizations. Part of the problem stems from confusing customers with online community members through the popularization of the term 'social customer relationship management' (Ang, 2011).

In the past, ideas behind community and community groups were focused on how people met, grouped together or made connections in the physical world. Jansen and Zhang (2009) pointed out that social media and social networking sites have developed and evolved in such a way that now they are used for a number of different reasons from communicating with friends and family, sharing information with others or allowing one a cyber-platform to create and manage their own online identity through a variety of different social networking websites. One key features of many social media websites such *Facebook* is the option to join, '*like*' or create a so-called, 'community page' for various online and real-life communities. The community pages found on social networking sites are specifically designed online pages to help unify community members and build the relationship between people who share things in common. People like to connect, communicate, create and collaborate with each other (Ang, 2011). Thus, a community page may be used for a variety of purposes. For example, as Flagler (2011) highlights, a community page may be created to promote a sports, cultural or artistic event or perhaps to celebrate important places, people or historical dates.

Online community pages may support various charities, and build awareness for a worthy cause or to simply allow people with a shared common interests, goals or values to communicate or share information as a unified group within that community. As a direct result of the massive popularity of social media, the members of the growing global online community now have access to literally millions of community pages on social media and social networking websites for every conceivable individual, cause or interest from pages to support or promote sport teams, high schools, welfare organizations, religious groups, popular musicians or trending movie stars, favorite food or beverages, places to vacation and so on. Therefore, any individual with access *to Facebook* or other social networking sties may participate in an existing community page or create their own community page and share it with millions of people around the world. However, with this obvious freedom to create or choose community pages invariably brings with it both positive and negative consequences to the broader audience of that particular social media website. Being aware of these consequences and both the positive and negative implications of using online community pages is imperative for gaining a better understanding of the motivations for joining a community page.

Means-end Theory

According to Orsingher, Marzocchi & Valentinti (2011), "means-ends theory is rooted in the work of Simon (1957), who argued that decision makers act in order to achieve desired outcomes or end-states". Put another way, this theory states that consumers have abstract ideals that guide their purchasing decisions. Products and their perceived attributes that can help the consumer achieve an end-state are valued as instruments, or "means" to achieve the desired end-state. Consumers also identify with attributes of the products that help them achieve end-states on different levels of abstraction. Several years later, Gutman (1982) applied this theory to explain customers' purchasing behavior and developed the means-end chain (MEC) model and the key guidelines for means-end analysis.

According to Gutman (1982) attributes may be divided into concrete and abstract levels because it is necessary to distinguish between aspects that are literally part of a product or service (such as a lot of salt on a pretzel) and those that are attributed to a product because of those attributes (strong flavor). According to Valette-Florence (1998) each product has specific attributes. For example, the physical (concrete) attributes of coffee may include that it is *warm,* and *bitter.* A more abstract attribute of coffee may be that it is a s*ophisticated* beverage. Gutman (1982) explains that at the consequence level, a distinction has been made between two forms of consequences as well -functional and psycho-social consequences. Functional consequences accrue directly to the consumer from consuming the product (a skin product giving the consumer clean, healthy skin or "glowing skin"). The psycho-social consequences are produced by the functional consequences of using a product, such as when clean or healthy skin leads to admiration from friends or perhaps more attention from members of the opposite sex. And at the values level, Gyhiller (2010) highlights two forms of values namely, intrinsic (terminal) and instrumental values. Iinstrumental values (i.e., self-confidence, accomplishment) have been distinguished from terminal values (i.e., security, self-esteem).

DATA AND METHODLOLGY

There are many options for social networking websites including '*MySpace*' and '*Google+*' that could have been considered for this research, *Facebook* was examined as a social media platform primarily because of its global appeal and large number of active users. A community page called, '*i-Ride Taiwan*' (http://www.facebook.com/IRideTaiwan?ref=hl#) was created in May 2012 by the researcher and four other members of the administration staff. The participants selected for this research were conveniently selected active members of the '*i-Ride Taiwan*' community page. As suggested by Gutman (1982), as a rule of thumb, at least 25 laddering interviews are needed per group to conduct a conclusive analysis of the data. When conducting means-end analysis research, many studies used between 20 and 40 in-depth, personal interviews consistent with Kearns and Hair (2008). Most interviews were an average of 60 to 90 min in length. For this research, 5 people were selected for the "soft" laddering interview and a further 40 participants (28 males and 12 females) were selected to take part in the survey, which were conducted between January and April 2013.

First, the researcher conducted an interview with the content-providers and administrative team of the '*i-Ride Taiwan'* community page to create their own means-end chains about the community page. The purpose of this initial interview was two-fold. First, the researcher aimed to improve his interviewing and data-collecting skills in a relatively comfortable, non-threatening environment in anticipation of further interviews in the research process. Second, the researcher aimed to create a framework from which to conduct the 'hard laddering' survey. This initial interview would provide the content for further investigation. Semi-structured interviews were conducted by the researcher with individual administrators of the '*i-Ride Taiwan*' community page.

Participants in the study were asked to recall the key motivation(s) for creating this community page and participants were then asked to list factors (attributes) that they relied on as they created this community page. The researchers then utilized the laddering technique as described by Reynolds and Gutman (1988) and later applied to community page user and community page selection by Klensoky, Templin, and Troutman (2001) to create means-end chains, in which each attribute was explored via the question, "Why is that important to you?" This would elicit a response suggesting how this attribute would benefit the participant (consequence). After they name a factor or attribute that was important in a particular product, the researcher simply seeks to determine why that factor was important. This generally leads to a connection to a consequence. Asking why the consequence was important leads into further abstraction, to a statement of a value.

While the 'soft' laddering interviews aimed to find the initial A-C-V links, the surveys were used to add substance to the findings in the interviews. Content analysis and coding of the data was performed according with the relevant literature (Kassarjian, 1977; Reynolds & Gutman, 1988). While the 'soft' laddering interviews aimed to find the initial A-C-V links, the surveys were used to add substance to the findings in the interviews. The purpose of the 'hard' laddering surveys was to find which pre-determined values were shared among the potential new members of the online community group. The researcher is of the opinion that this combination of "hard" and "soft" laddering approaches was the best means to address the shortcomings and gain value from both approaches. First, using the data collected from the interview in the first part of the research, a 'check-the-box' survey was created in the same format used by Russell et al (2004). The survey was conducted with participants from a sample of '*i-Ride Taiwan'* community members. Participants were explained the purpose of the research and 40 useable surveys were collected. The survey lasted approximately fifteen minutes.

RESULTS

During the interview process, the administration of the community page discussed attributes of the page that they had either intentionally or intentionally created. From a list of eight main attributes, the administration of the community page discussed why these were important to them to elicit the consequences (10) of these attributes and finally the values (6) that are important to the creators of the page. The personal interviews elicited several sets of ladders and each item was labeled as an A, C or V. After inspecting the results for completeness, a set of summary codes was developed to reflect all the elements (A-C-Vs) elicited. Table 1 below provides the summary content codes from the personal interview.

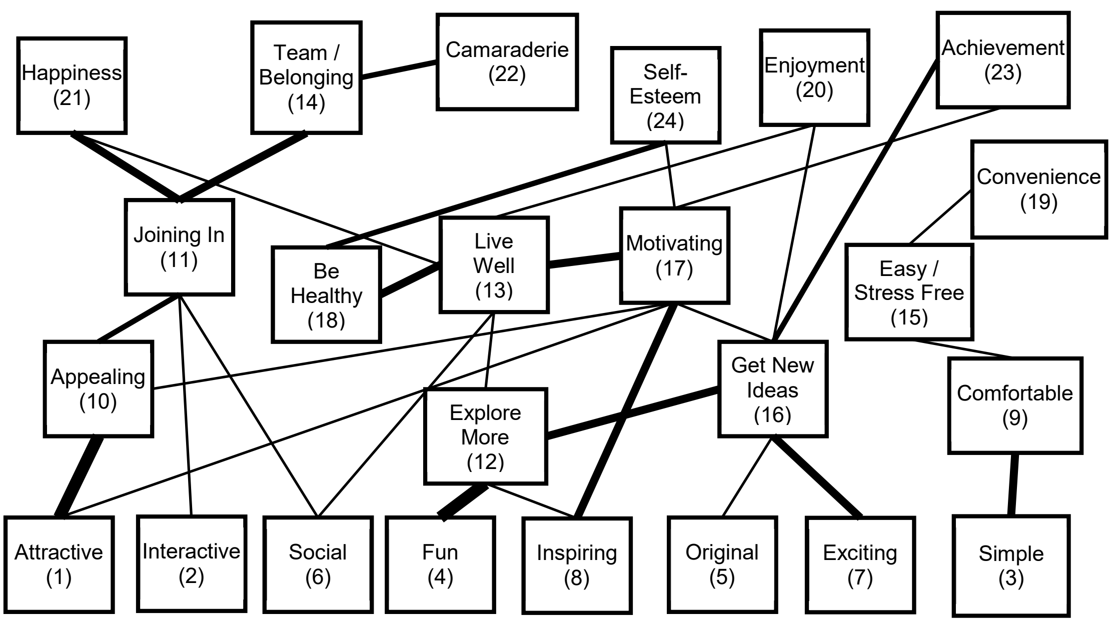
Table 1: Summary Content Codes from Personal Interviews with '*i-Ride Taiwan*' Administration

Attributes	Consequences	Values
(1) Attractive	(9) Comfortable / Stress Free	(19) Convenience
(2) Interactive	(10) Appealing	(20) Enjoyment
(3) Simple	(11) Joining In	(21) Happiness
(4) Fun	(12) Explore More	(22) Camaraderie
(5) Fresh / Original	(13) Live Well	(23) Achievement
(6) Social	(14) Sense of Belonging	(24) Self-Esteem
(7) Exciting	(15) Easy To Use	
(8) Inspiring	(16) Get New Ideas	
	(17) Build Motivation	
	(18) Adopt A Healthy Life	

This table shows the identification classification in this study. There are 8 attributes, 10 consequences and 6 values.

The next step was to take the data above from the personal interviews and to use it as the foundation of the hard-laddering survey. This was to assess how closely the members of the community page share the same A-C-V chains and which shared values stand out in the study.

Figure. 1: Hierarchical Value Map of '*I-Ride Taiwan'* Study



This Figure shows the HVM of the 'i-Ride Taiwan'. Four major routes were identified from the HVM. (1) attractive → appealing→ joining in → happiness/belonging (2) fun→ explore more→ get new ideas →achievement / enjoyment (3) inspiring → motivating → live well/be healthy → self-esteem (4) exciting → get new ideas → achievement/enjoyment

The hierarchical value map (HVM) is a useful tool in the analysis of the results as it is essentially a simplified summary of the data. Therefore, simply examining the HVM above is an important starting point for the analysis of a broad collection of data. The analysis of a result will thus move through the eight attributes and their respective links for a clear, comprehensive exploration of the data. Firstly, the 'attractive' attribute of the community page has a very strong link to the 'appealing' consequence and a weaker link to 'motivation'. From there, strong links to the 'joining in' consequence are evident leading to significant links with 'happiness' and 'belonging' values. This is important as it suggests that using an attractive person to promote the '*i-Ride Taiwan'* community page appears to have strong connections with people who value 'happiness' and appears to make them motivated to join in the page as part of a larger group to appeal to the value of being part of team or developing a sense of belonging. Another very significant link is between the 'fun' attribute and the consequence of this attribute which seems to make people want to 'explore more' and, more significantly, to 'get new ideas'. There were strong connections between these consequences and the values of 'achievement' and 'enjoyment'.

This would suggest that perhaps the fun, happy, healthy attributes of this page inspires some people to do their own exploring with the hope of achieving their own goals or simply for the enjoyment of being outdoors and having fun. It is perhaps unsurprising that this is a strong chain as more and more people today are motivated to live healthily and to make the most of their lives and the community page offers a real example that others can live up or strive towards. The fact that the page is 'fun' and has lots of motivating content inspires others to be part of the community that encourages such a lifestyle. Next interesting link in the HVM was the strong connection between the 'inspiring' attribute of the community page and how it seemed to have a very strong 'motivating' consequence for the participants in the study. The data seems to suggest that for many, this is primarily driven by needs to 'life well' or 'be healthy' which are driven by 'self-esteem' and 'achievement' values. Thus, it appears that by having content which inspires others (such as cycling up high mountains or meeting new friends) really motivates people to do the same and that rather than simply admiring the achievements of other people on the community page, people are motivated to perhaps attempt their own challenges.

Another chain worth highlighting stems from the 'exciting' attribute of '*i-Ride Taiwan*'. The data obtained from the participants in the study shows that the main consequence of looking at the exciting content on the page is that it also gives others 'new ideas' and 'motivation' which, once again, has strong links to the values of 'self-esteem', 'enjoyment' and 'achievement'. This appears to tie in closely with the 'fun' attributes of the page and indicates that these are all significant attributes, consequences and values which contribute to the participant's interest in the page and motivation for being active members of the page too. Finally, there also appears to be a strong attraction to the 'simple' attributes of the page. This lead to many of the participants feeling 'comfortable' when visiting the page, which lead to weaker connections to the consequences of 'easy use' and 'stress-free' browsing to the value of 'convenience. This seems to suggest that for many of the participants in the study, it was important or appealing to them to visit a community page that is simple (lots of photos, limited text and orderly structure) as it makes for a relaxing, easy and enjoyable experience on the page. The participants valued 'convenience' so having a page that is uncluttered and well-managed appears to be one of the more appealing aspects of the '*i-Ride Taiwan'* community page.

It should also be noted that although there were not strong attribute-consequence-value links to all the attributes of the page that the administration of '*i-Ride Taiwan'* hoped to appeal to the public, there were other links and it is assumed that had the research sample been larger then perhaps more of those chains would have become more evident. Nevertheless, some important results were discovered which opened some interesting data worthy of further discussion.

CONCLUDING COMMENTS

As discussed in the analysis of the results, there are very important findings from the final hierarchical value map that are worth expanding on further. Many participants appear to value 'self-esteem' greatly. This is interesting because the community page was driven by one individual and there was the risk of the page coming across as very self-glorifying in nature. However it seems that many of the respondents were attracted to the page because it may help them to build up their own self-esteem by exploring the country or doing more exercise. Therefore, continuing with the same method but also encouraging people to share more of their own travels or reminding people that they can also cycle more and explore more of Taiwan may help to appeal to their self-esteem and thereby potentially increase the attractiveness of the page to those people. Another value that seemed important to many of the participants in this research is 'happiness' which was closely related to 'joining in' or building a sense of 'belonging'. This is significant because if being part of a team or a community page like '*i-Ride Taiwan*' makes people happy and that is driven by a need to be part of a group because 'camaraderie' or togetherness is valued then there are many specific steps that the community page can take to target these values.

Furthermore, with a strong link between 'getting new ideas' and the 'achievement' value, it is apparent that the page seems to motivate people to achieve their own goals or to revel in achievements of another. The 'social' attribute did not seem very significant for many participants who is unsurprising as the page would probably benefit from having more contributors and therefore making it a more social space. The 'originality' of the page was also not seen as a very important motivating factor for a lot of the participants and this may be attributed to the fact that there are so many similar community pages available to the public today and trying to make a community page that is entirely original is a complicated task.

Specifically, there are several practical steps that the administration of the '*i-Ride Taiwan*' page could consider. For example, there was a strong leaning towards the 'happiness' value from the sample and therefore the content providers may look to incorporate more photographs of smiling people, bicycle or cycling-related jokes, humorous quotes, funny clips or images of success or athletic achievement which may appeal to the commonly shared value of happiness. Another commonly shared value was the value of 'achievement'. Once again, some practical suggestions for appealing to such a value may include links to triathlons or other challenging endurance races, photographs of people with their bicycles at the top of high mountains or the end of a difficult ride, motivational quotes, or inspiring videos. These may also appeal to people's values of 'discovery and 'self-esteem' which scored highly, too.

Another strong link was towards 'joining in', 'belonging' and 'camaraderie'. Therefore, including more group photographs, videos showing cycling teams riding together, comments about group rides on weekends and links to blogs about what is like to cycle with a large group of your friends could all be specific steps to add to the appeal of '*i-Ride Taiwan*'. However, many participants in the study seemed to appreciate that the page was not too cluttered or overly bogged down with content so the administration should aim to guard against this. Some final suggestions to market the community page better and attract a wider audience may include advertising the community page to bicycle magazines, sharing the idea on other social media websites such as cycling blogs, incorporating a wider word-of-mouth strategy to let more people know about the existence of the community page and perhaps to even offer incentives to add one's own content to the page as it does appear to be an appealing yet relatively unknown page which has potential for significant growth and reach.

This research was particularly interested in the shared values amongst active and potential members of the online community page and how to create suitable content and market the product to best meet those values. Therefore, the managers or administrative personnel of the '*i-Ride Taiwan*' community page may consider the results of this study to develop a more focused strategy to retain the current users, attract new users and develop the community page to make it more appealing to the users. Based on the results of this study, there are several ideas that the content-providers of '*i-Ride Taiwan*' may consider employing in terms of an overall strategy and specific steps to add to the possibility of growing and improving the community page, particularly in terms of segmenting consumers with respect to their values orientations for a product class or brands. The overall strategy to take the '*i-Ride Taiwan*' community page forward is related directly to the values that were uncovered in the research which the content providers of the community page should consider while the specific steps relates to the precise actions that those same content providers of the community page may look to employ in the future to appeal to those values.

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DATA ECONOMY DIMENSIONS

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ABSTRACT

Data is the 'new oil'. Data has been widely regarded as the main innovation driver in information technology and several other segments of developed economies. Inherent value of data has a significant transformational power. Realization of value of data drives the rapidly expanding data-driven technology sector. Data is among the most prized assets of not only data-oriented technology companies but also governments and individuals. Data plays a central role in a growing spectrum of economic activities. Data economy has manifested its effects along a number of dimensions—particularly, trade, labor, education and government. However, to realize the full potential of data and manage its transformational power, it is necessary to understand the value of data, its influential spectrum, and enablers facilitating social and economic benefits. Despite the growing importance of data economy, there is a considerable lack of studies encompassing the associated range data oriented economic activities and their analysis. This work examines the dimensions of contemporary data economy and presents a pertinent encompassing perspective.

JEL: A10, E24, E66, F23, J21, J26, J31, K10, M15, M51, O11, O14, O15, O33, O38.

KEYWORDS: Data Economy, Trade, Labor, Education, Government, Data-Driven Innovation, Data Science, Data Engineering, Data Products, Data Protection, Privacy, Big Data, Data Management

INTRODUCTION

Digital data production has been experiencing an exponential growth over the past decade. This growth is projected to continue during the following ten years (Gantz and Reinsel, 2012; EMC, 2014). At the beginning of the twenty-first century, many advanced economies reached the digital dominance (i.e. digital data surpassed analog data). The next milestone is expected to occur in 2017—when emerging markets shall outgrow mature markets in data production (EMC, 2014).

The digital dominance has brought both benefits and challenges (McAfee and Brynjolfsson, 2012; Charlesworth, 2009). Digital data is relatively easier to store and mange than analog data. There is also a greater range of tools for digital data processing. The main tools have become digital computers, database systems and a broad range of devices in the domains of information technologies (Kroenke and Auer, 2013). Digital data is also easier to produce—given the contemporary technological advancements. A multitude of devices ranging from large-scale systems, throughout mobile devices, to miniature sensors can produce rapidly large amounts of digital data.

Ease and speed of digital data production has brought several challenges. Data is being produced at a rate faster than we can process and store it. The production outpaces the processing (Gantz and Reinsel, 2012). Contemporary digital data expansion is disproportional to the progress in data processing technologies (EMC, 2014). Data grows overly faster not only in volume, but also in diversity, complexity and other aspects.

The discrepancy between growing aspects of data (such as volume, diversity, complexity, etc.) and processing capabilities has led to big data problems (Géczy, 2014; Fan et al. 2014). The big data problem underlines the gap between the required and available processing capabilities. If such gap occurs in organizations, it needs to be addressed promptly and appropriately. Otherwise, it leads to diminishing abilities to utilize the potential of big data.

Despite challenging big data problems, organizations have been eager to realize the transformational power of data (Redman, 2015). Data can provide benefits for organizations both internally and externally (Provost and Fawcett, 2013). Suitably collected and analyzed organizational data may deliver better perspective on internal functioning of organizations. Utilizing the insights from data, organizations can effectively address the issues of operating efficiency and productivity.

Attempts at realizing economic potentials of data have initiated various commercial and technical activities (Hurwitz and Kaufman, 2015). The activities include data collection and storage, data analysis and processing, actionable knowledge extraction, design of data products and services, direct and indirect data monetization, etc. Data collected and engineered for external monetization provides opportunities for organizations to expand their revenue streams. The spectrum of economic activities is expanding as organizations are exploring innovative ways to gain strategic advantages (McCallum and Gleason, 2013). The scale and scope of data oriented economic activities are bringing about notable effects on economy.

Data oriented economic activities are playing increasingly important role in developed economies. As the importance of data rises, so does the appetites of commercial organizations and governments to collect, control, and use more data for their own benefits (Zwitter, 2014). These benefits are not necessarily aligned with the interests and rights of individual users and citizens. Many citizens around the world regard this vast data collection as an intrusion of their privacy (Cate, 2011). Governments and regulatory bodies must progressively intervene in order to establish balance that stimulates economic growth and protects the rights of citizens and individuals.

The manuscript is organized as follows. The literature review section is followed by the 'Dimensions of Data Economy' section. It presents an encompassing perspective on data related economic activities and highlights four influential dimensions of data economy. The dimensions are elucidated in the following sections. The section 'Trade Dimension' addresses the issues of value of data and its monetization. The next section, 'Labor and Education Dimensions', illuminates these two closely interrelated aspects of data economy. Shortage and high demand for data professionals affect labor dynamics and stimulate expansion of educational programs. The following section, 'Government and Regulatory Dimensions', exposes the need for regulating the forces of data economy both nationally and internationally. The presentation concludes with a concise summary of the essential points.

LITERATURE REVIEW

Data is the most valuable asset in information and data economy (St. Amant and Ulijn, 2009). Data oriented economic activities have been progressively evolving from development of technological solutions, throughout provision of services, to maximizing the value of data. Information technologies and data services have been rapidly expanding. Data services are gaining a solid ground in the dominant economic sector of contemporary developed economies―service sector (Bryson et al., 2004).

Value of data has been rising and organizations have been realizing it (Lievesley et al., 1993). Extracting value from data has become the target for many organizations. They have started collecting vast volumes of data about their operations, suppliers and customers. Large operational data can be explored for gaining insights into functioning of organizations and increasing operational efficiency (Géczy et al., 2007 and 2008). Data analytics have been employed to attain competitive advantage for organizations (Davenport et al., 2007 and 2010). Actionable knowledge extraction methods have been utilized for improving core competencies (Laursen and Thorlund, 2010).

Collecting and managing bid data by organizations have led to various challenges (Wigan and Clarke, 2013; Klein et al., 2013; Malik, 2013; Walsh et al., 2012). Data needs to be stored and appropriately processed as it grows (Tallon, 2013). Rising demands for processing power, storage and management of big data have led to development of scalable and distributed technologies (Frischbier and Petrov, 2010). However, data and its complexity have been expanding faster than capabilities of organizations to manage it. This has led to emergence of big data problems (Géczy, 2014; Gantz and Reinsel, 2012).

Persistent big data problems have been raising concerns about viability of data oriented strategies (Jacobs, 2009). Critics of data orientation have argued that big data presents more paradoxes than potentials (Richards and King, 2013). These arguments have gained a substantial strength with the major failure of the Google Flu Trends project (Lazer et al., 2014). The project has been regarded as a prime example of the power of data. Insights derived from data should have been a more useful indicator of flu spread than the government statistics. However, the insights completely missed the largest swine flu pandemic.

Shortage of qualified data professionals has presented additional challenges for organizations in realizing the potential of data (Bakhshi et al., 2014; Manyika et al., 2011). Occupation of a data scientist has been labeled as 'The Sexiest Job of the 21st Century'—due to high demand and attractive remuneration (Davenport and Patil, 2012). However, qualified data professionals are difficult to find. They are required to have advanced multidisciplinary skills (Bakhshi et al., 2014). The skillset should incorporate advanced technical skills, soft skills, and relevant domain knowledge. Universities have seized this opportunity and have developed advanced degree programs for training new data scientists.

Data–as the central asset in data oriented economic activities–needs adequate protection and security (Garber, 2013; Tallon, 2013; Anthes 2010). The appropriate measures must extend to both organizations and individuals internationally (Cate, 2011; OECD, 1980). Organizations should keep their data protected and safe from misuse by governmental and/or commercial entities (Wei et al., 2015). Individuals should have their privacy respected and properly protected by legislative measures (Margulis, 2011; Lanois 2010). These challenges require involvement of government and regulatory bodies.

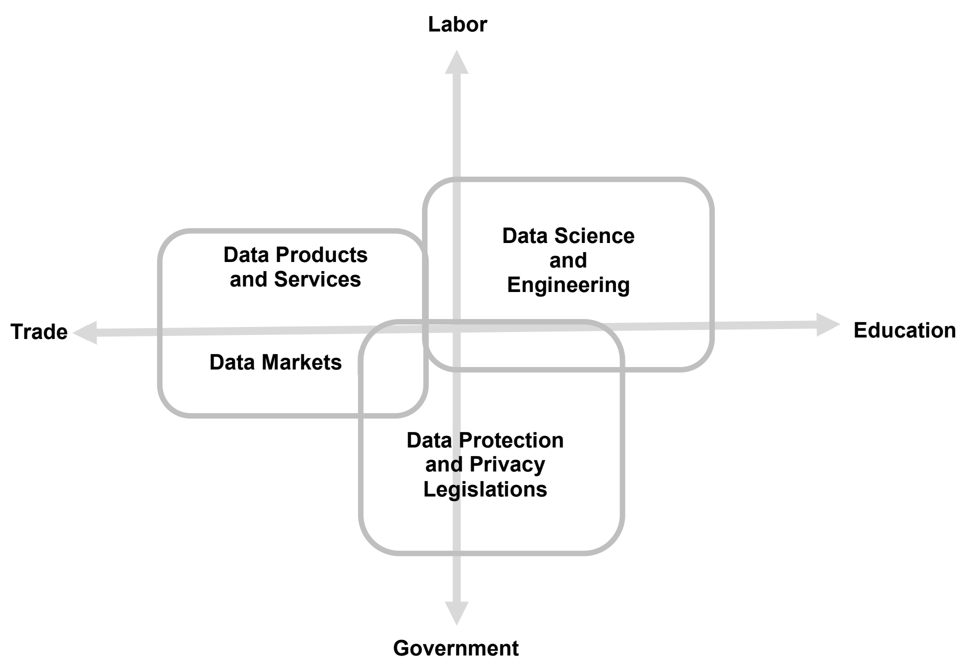
DIMENSIONS OF DATA ECONOMY

Digital revolution and rapid expansion of information technologies have brought both benefits and drawbacks. Digitization of data has allowed efficient data management and automation of data processing. However, it has also led to extensive rise of digital data over the past few decades (Gantz and Reinsel, 2012). Explosion of digital data and inadequate progress in data processing technologies have resulted in big data problems (Géczy, 2014). The big data problems have been presenting notable challenges to organizations (Buhl et al, 2013; Hunter, 2013; Klein et al., 2013; Walsh et al., 2012). Although the big data meme has provided the initial visibility of emergent data economy, several factors have played important roles.

There are three significant factors contributing to the rise of data economy: digital data dominance, unprecedented data growth, and value of data. It is estimated that at the beginning of the twenty-first century digital data outgrown analog one (EMC, 2014). Digital data has been expanding exponentially―pressing organizations to face the new data challenges and adopt data-oriented strategies. This has led to development of novel technologies, markets and economic realization of inherent value of data. These issues have commenced the data economy that has been evident along several dimensions.

Data economy has been influential in four primary dimensions: trade, labor, education and government (as illustrated in Figure 1). Along the trade dimension, contemporary data-oriented economic activities revolve around data products and data markets. The labor dimension underlines a high demand for data scientists and engineers. Presently, there is a lack of qualified labor to fill these positions. Increasing demand for data professionals stimulated various educational activities. Universities and commercial organizations have been developing novel educational programs to train new generation of data professionals. Academia has also been approaching novel data-oriented challenges from research and development angles. Growing spectrum of data-oriented economic activities has also attracted involvement of governmental and regulatory bodies. Their involvement has emerged from the need to regulate data economic activities and provide suitable grounds for adequate data and privacy protections.

Figure 1: Illustration of Four Essential Dimensions of Data Economy



Data-oriented economic activities span across four major dimensions: trade, labor, education and government. In the trade dimension, data products and data markets are the primary constituents of economic activities. In the labor dimension, the economic activities are driven by a high demand for qualified data scientists and engineers. Lack of skilled data scientists and engineers is a motivating force for educational and research activities in data science and engineering. Governmental involvement emerged from the need to regulate data-oriented economic activities and provide baselines for adequate data protection and privacy.

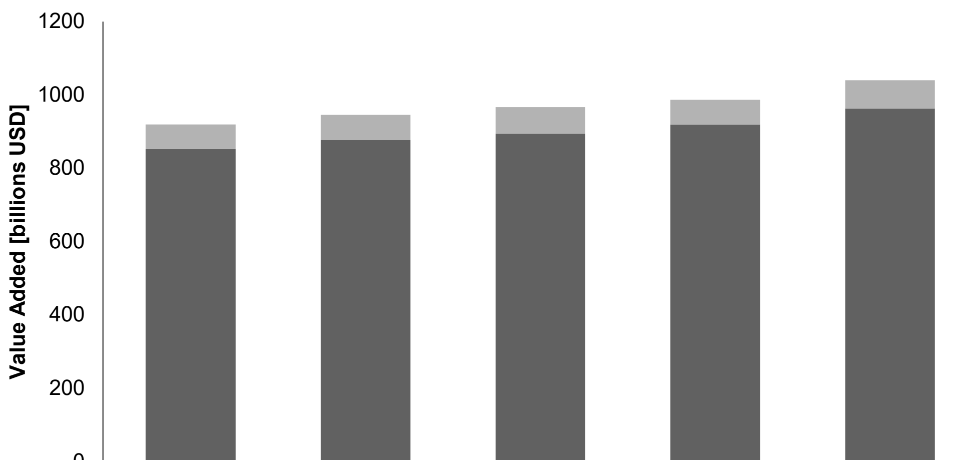
TRADE DIMENSION

Data has a value that can be monetized. Value of data is the enabler for direct or indirect monetization and underscores the trade dimension of data economy (Vertesi and Dourish, 2011). Data markets and data products are two main facilitators for monetizing data. While data markets serve as platforms for direct data exchange, data products allow for indirect monetization of data. Data oriented economic activities increasingly contribute to GDP of developed economies. In the United States, value added by data processing industries represents approximately eight percent of GDP contribution by Information and Communication Technologies (see Figure 2).

Data markets are platforms for direct monetization of data. They offer systems and tools for mediating economic transactions between one or more economic agents (individuals, businesses, governments, etc.).

Economic transactions are generally carried out in a medium of exchange―financial quid pro quo. However, there are also data markets focused on data sharing that facilitate barter transactions, i.e. limited or unlimited direct exchange of data without using a medium of exchange. Economic transactions on data markets rely on exchange of value inherent in data.

Figure 2: GDP Value Added by Data Processing and Information-Communication Technologies (ICT)



	2009	2010	2011	2012	2013
Data	66.5	69.5	72.7	67.3	77.5
ICT	852.4	876.3	894.1	919.1	962.5

Information-Communication Technologies (ICT) and Data Processing economic activities increasingly contribute to GDP of the U.S. During the five-year period 2009-2013, data processing economic activities represented approximately 8% of ICT value added to GDP. [Source: U.S. Bureau of Economic Analysis (BEA), Release Date: November 13, 2014]

Value of data is largely determined by data providers (Chatain, 2011). Presently, there are no commonly agreed upon data valuation methodologies. However, a number of quantitative and qualitative factors are taken into account. For instance, volume and richness of data, completeness or incompleteness of data, accuracy or inaccuracy of data, level of contamination or noisiness of data, timeliness of data, etc. Data has also a significant potential for indirect value creation.

Prominent potential for indirect value creation by data is evident in several ways (Manyika et al., 2011). For instance, transparency creation: making relevant data easily accessible across otherwise separate departments can sharply reduce search and processing time, and enhance productivity; segmentation: large and complex organizational data can be suitably segmented according to desired characteristics for improved decision making; customization: specific user characteristics or product features observed in data enable tailoring of products and services precisely to meet those needs. Value created by data is in symbiosis with value of products and services utilizing given data.

Data products and services facilitate monetization of indirect value creation. That is, data is not monetized straightforwardly, but rather products and services built upon data are monetized. Data is symbiotically linked to products and services in value creation. Data products and services would not exist without data. Furthermore, the products and services built using data can deliver greater value than data alone (Chatain, 2011; Lievesley et al., 1993). Products and services encapsulating data also allow for value creation in domains where data alone would have little or no value (Hearn and Pace, 2006). There are two main categories of data products and services―depending on whether the consumer is an individual user or an organization (or government). Products and services oriented towards organizations and governments are generally monetized with financial quid pro quo. That is, organizations and governments purchase the products and services. Although this monetization model is also used for data products and service oriented towards individuals, a significantly greater trend in monetization utilizes cross subsidization and freemium practices (Seufert, 2014).

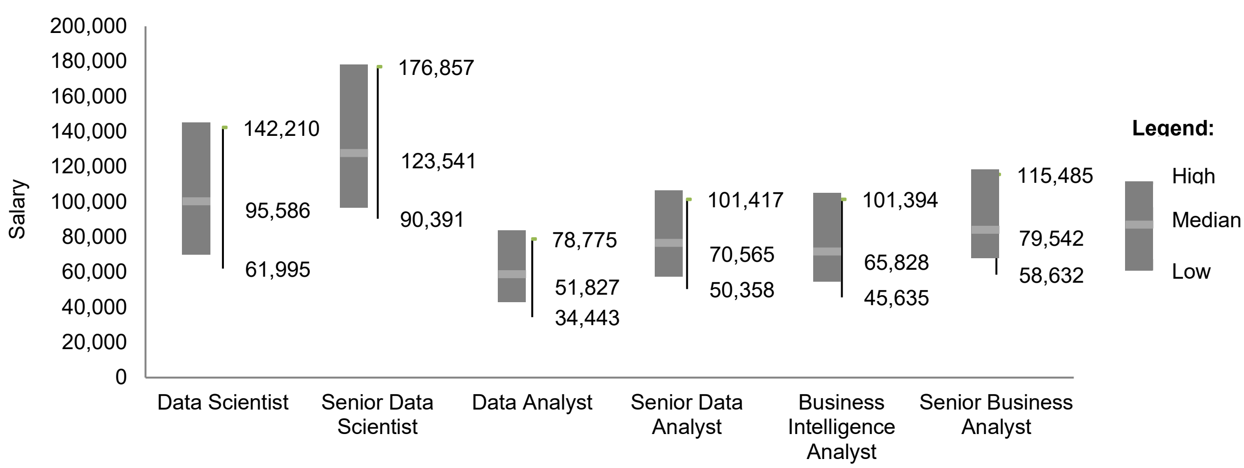
LABOR AND EDUCATION DIMENSIONS

Growing adoption of strategic data utilization by organizations has been creating an increasing demand for qualified labor. Exponential rise of data and rapid emergence of big data issues speeded up the demand for skilled data professionals (Bakhshi et al., 2014). Educational systems have not been prepared for such a situation and have not been able to produce sufficient supply of qualified data professionals in a desirable time. Data talent is difficult to produce—taking years of training. Hence, the strong demand for skilled labor has not been matched by an adequate supply.

Increasing gap between the demand and supply sides of skilled labor has brought forward several issues: labor shortage, labor migration, rise of wages, and boom of education programs for training new generation of data professionals. Presently, the main issue is a shortage of skilled data professionals in advanced economies. The shortage is expected to last during a five-to-ten year period. For instance, in the United States—based on the trends projected from 2008, it has been estimated that the demand for data professionals could exceed the supply being produced on current trends by 140,000 to 190,000 positions. Moreover, the demand for data talent in the United States could be 50 to 60 percent greater than its projected supply by 2018 (Manyika et al., 2011).

Rise of wages for skilled data professionals has been a natural consequence of contemporary labor shortage (King and Magoulas, 2015). Qualified data scientists have been in high demand by organizations aiming to realize value of data. Senior data scientists have been even scarcer. In the United States, it has been projected that there is a need for 1.5 million additional managers who can realize the value of data, ask the right questions and effectively use the results of data analysis (Manyika et al., 2011). A data scientist and a senior data scientist positions have a greater remuneration than other data related positions. Median salaries across the United Sates for a data scientist and a senior data scientist positions are 95,586 and 123,541 dollars, respectively. This is in contrast with median salaries for other data related professionals—such as analysts—whose wages range from 51,827 to 79,542 dollars (see Figure 3).

Figure 3. Annual Salary Ranges of Data Oriented Professionals in the United States



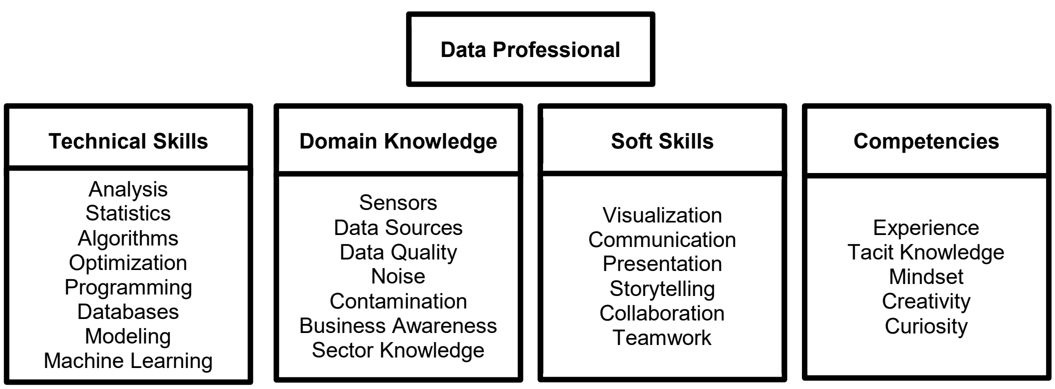
Averaged annual salary ranges for data oriented professionals across the United States. The highest salaries are for a senior data scientist and a data scientist positions. The median incomes for data science positions are higher than those of other data related positions. [Source: PayScale Inc., Updated: December 11, 2014].

Attractive remunerations and shortages of data professionals notably contributed to labor migration. Organizations aiming to substantiate strategic advantages of data and insights derived from it have been in need to fill the positions quickly (Bakhshi et al., 2014). Trained data professionals, in addition to their shortage, have been difficult to find. Hence, the positions have been filled with candidates providing a reasonable fit. Since data oriented work requires analytical and quantitative skills, trained engineers, mathematicians and physicists have been a suitable fit. This has led to migration of mathematicians, physicists and engineers to data related positions. Despite the migration, the shortage of suitable professionals for data oriented positions has remained (Manyika et al., 2011).

Data professional positions require a demanding skillset. Skillsets vary among economic sectors, organizations and particular positions (Bakhshi et al., 2014; Bruch, 2014; Harris et al., 2013; Davenport and Patil, 2012). Generally, the skillset can be categorized into four distinguishable groups: technical skills, domain knowledge, soft skills, and competencies (Figure 4). Technical skills represent analytical, quantitative, programming and modeling skills. Domain knowledge underlines understanding of data sources, their qualitative aspects and limitations, and business environment. Soft skills are abilities to present and communicate analytical insights, and work in collaborative environments. Competencies encompass abilities to approach complex questions and tasks in an effective manner and explore potential solutions from various angles.

The desired skillset of a data professional is significantly multidisciplinary (as illustrated in Figure 4). The outlined four pertinent sets of skills are difficult to acquire and may take years of training even for individuals with background in computer sciences, engineering or quantitative disciplines. The pressing need for training of data professionals, and creating a new segment of labor force, has led to establishment of new educational programs and curricula at universities.

Figure 4. Skillset Profile of a Data Professional



Four desired sets of skills of a data professional are: technical skills, domain knowledge, soft skills, and competencies. Each group contains a representative list of skills among a greater and diverse list of skills. Depending on economic sector, organization and position the preferred skillsets may vary.

Data professionals need to be well educated. They need a number of advanced abilities that require education at a graduate level and/or even higher. Such education and training responsibilities are well suited for academic and research environments. Hence, universities have been establishing new higher degree programs in data science and data analytics. Rapid rise of educational activities, curricula and research into data science has been originating from high demands for data professionals and realization of importance of data in the economy.

Educational programs aimed at training new data professionals range from intensive one-year courses to comprehensive two-year higher degree programs. For instance, the University of California, Berkeley offers a comprehensive multidisciplinary two-year professional degree program the Master of Information and Data Science (Data Science at Berkeley, 2015). The curriculum is divided into three segments: foundation courses (e.g. research design, data exploration, data storage and retrieval, machine learning, visualization), advanced courses (e.g. legal and ethical considerations, scalability), and a synthetic capstone course. Stanford University and Harvard University provide data science training as a part of their Master's programs in statistics (Data Science at Stanford, 2015; Data Science at Harvard, 2015). The curricula are more analytically and technically oriented.

GOVERNMENT AND REGULATORY DIMENSIONS

Realizations of economic and social potentials of data require governments and policy makers to appropriately respond to barriers and enablers. Progressive policies and regulatory frameworks should maintain a suitable balance between the needs and rights of individuals and organizations in data economy (Joseph and Johnson, 2013; Garber, 2013; Kuner et al., 2012). There is also a pressing need for international coordination of legal and regulatory frameworks (Cate, 2011).

Important areas where policies should play vital roles are data protection, security, and privacy (Garber, 2013; Lanois, 2010). While data protection and security pertain to the needs of both organizations and individuals, privacy protection addresses the basic rights of individuals. Data is the primary creator of value in data economy. It needs to be protected and secured. Adequate protection and security of data is in the best interest of countries as well as organizations (Wei et al., 2015; Anthes, 2010). Apt legislations and policies should be enacted to enhance data protection and set appropriate security standards.

Privacy protection is a pertinent domain where governmental and regulatory interventions are necessary (Margulis, 2011; Acquisti and Grossklags, 2005). Self-regulations by commercial organizations have been a major failure. Moreover, they present threats to data economy (Radinsky, 2015). Majority of the developed economies have deployed legal measures to protect privacy of individuals. Unfortunately, the United States is noticeably lacking behind—having presently no federal legislation regulating online privacy and data protection. On the other hand, the European Union has the most progressive legislative frameworks for protections and regulations of online data and privacy.

In the European Union, the privacy is a basic human right—per se, it is extensively regulated and enforced. Article eight of the European Convention on Human Rights (ECHR) stipulates it. Protection of personal data and privacy is further regulated by the Data Protection Directives (EUDP). The legislations include several directives (95/46/EC: The protection of individuals with regard to the processing of personal data and on the free movement of such data; 97/66/EC: The processing of personal data and the protection of privacy in the telecommunications sector; 2002/58/EC: The processing of personal data and the protection of privacy in the electronic communications sector; 2006/24/EC: The retention of data generated or processed in connection with the provision of publicly available electronic communications services or of public communications networks).

Data protection and privacy are regulated in an increasing number of countries. Multinationals are required to comply with legal requirements in the legislative regions of their business. The legal requirements may notably vary depending on the legislative regions and sensitivity of data. Organizations must implement necessary measures and management practices in accordance with the effective legislations. Spectrum and diversity of legislative issues present numerous challenges.

Internationally accepted regulatory frameworks need to be established and adopted (Cate, 2011). The Organization for Economic Cooperation and Development has attempted to approach this task by issuing the 'Guidelines on the Protection of Privacy and Transborder Flows of Personal Data' (OECD, 1980). Unfortunately, presently only few countries, apart from the European Union, have adopted legislations by adhering to the core set of principles provided in the OECD guidelines (Garber, 2013).

CONCLUSIONS

Data economy has been gradually growing over the past several years and has been projected to continue growing at an increasing pace. The growth has been fueled by the exponential expansion of data and its impact on organizations and societies. Emergent data economy has been evident in several domains. Notable effects have been along the dimensions of trade, labor, education and government.

Trade dimension of data economy reflects realization of value of data. Data has a value that can be directly or indirectly monetized. Direct monetization of data is realized on data markets by quid pro quo transactions. Value of data is largely determined by organizations participating in the transactions. Presently, there are no globally accepted valuation methodologies for data. Numbers of qualitative and quantitative factors are influencing the value of data.

Indirect monetization of data is realized via data products and services. Products and services that are built on data exemplify symbiotic value creation. The created value is greater than the value of data itself. Data products and services also facilitate access to markets that would otherwise be unreachable. Data related economic activities increasingly add value to the gross domestic product of developed economies. In the United States, the added value represents approximately eight percent of the information and communication technologies sector.

Labor and education dimensions of data economy underline the transformational power of data on human resources. Organizations have been striving to realize the economic potential of data. In order to do so, they need qualified professionals that are able to manage data lifecycle, extract actionable knowledge from data, and transform it into values for both organizations and consumers. Such professionals are hard to find. There has been a shortage of skilled data professionals in developed economies. The demand for data talent in the United States is estimated to be 50 to 60 percent greater than its projected supply by 2018. Shortage of data professionals has led to labor migration, rise of wages, and development of new educational programs for training a new generation of data professionals.

A skillset profile of a data professional incorporates several advanced skills that require years of training. Generally, the desired skillset can be divided into four groups: *analytical and technical skills* (e.g. data analysis, statistics, modeling, machine learning, etc.), *domain knowledge* (e.g. data sources, data limitations, business awareness, etc.), *soft skills* (e.g. communication, visualization, presentation, teamwork, etc.), and *competencies* (e.g. experience, creative mindset, curiosity, etc.). Academic and research environments are the best suited for training data professionals. Increasing numbers of universities have been offering advanced degree programs in data science, analytics, and business intelligence.

Government and regulatory dimensions of data economy underscore the necessity of balancing the needs of organizations and the right of individuals in realizing the economic and social potentials of data. Policy makers should enact progressive regulatory frameworks and legislations. Adequate data and privacy protections should stimulate the data economy and enhance citizens' trust. Moreover, there is also a pressing need for international coordination of policies.

The presented study reflects a contemporary state of developed economies—particularly, the United States. It provides a pertinent perspective on major drivers and effects of data economic activities. Many of them will arise in developing economies later. Developing economies have a significant opportunity to learn and adequately prepare for the issues they may face. Managing a beneficial transition to data economy is the target of future study.

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ESTABLISHING BEST PRACTICES FOR INCLUDING EMOTIONAL INTELLIGENCE IN REAL ESTATE PROFESSIONALS

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ABSTRACT

Competency in emotional intelligence, whether learned and/or improved, is an important skill for those in the field of real estate sales. Evidence from studies in the area of real estate and in the general area of sales have indicated that a correlation exists with individuals who have high emotional intelligence and improved sales performance. A thorough literature review and the delivery of an online survey taken by 31 real estate professionals was conducted. From this research, Swanson, Hamilton, and Zobisch created a list of best practices for incorporating emotional intelligence into the field of real estate professionals.

JEL: Z00

KEYWORDS: Emotional Intelligence, Personality, Sales, Real Estate Professionals, Realtor™

INTRODUCTION

Swanson and Zobisch (2014) researched the topic of emotional intelligence and the real estate profession as a component of sales in 2013 conducting a detailed literature review, *Emotional Intelligence Understanding among Real Estate Professionals* in the Review of Business & Finance Studies (RBFS). Due to the fact that limited research exists on this topic, the researchers desired to extend their research to include the opinions of at least 30 experts in the field of real estate to validate their previous research.

The remainder of this document includes three sections: a) a literature review, b) a data and methodology area, c) results, and, d) concluding comments. The literature review includes a summary of emotional intelligence and how it relates to the real estate profession. An explanation of the exploratory survey methodology used in this study and an analysis of the data will be discussed. Finally, concluding statements will be presented to include a list of best practices, and future opportunities for research and projects will be addressed.

LITERATURE REVIEW

Few studies are available where emotional intelligence in real estate-based professionals has been completed. Swanson and Zobisch (2014) addressed the importance of understanding EI in real estate professionals. Hamilton (2008) examined relationships between EI and mortgage sales performance. Hamilton found that increased levels of EI correlated with improvement in sales. In addition to these two studies, research regarding EI and real estate-related issues are examined.

Swanson and Zobisch (2014) found that "regardless of the chosen field, the understanding and effective application of emotional intelligence (EI) has been proven to be an effective tool in providing positive benefits in the workforce (Kidwell, Hardesty, Murtha, & Sheng, 2011; Lam & Kirby, 2002; McCoy, 1997)". Swanson and Zobisch researched several studies which revealed that when people demonstrated high EI the opportunities for positive outcomes such as increased revenue exists (Carmelli, 2003; Deeter-Schmelz & Sojka, 2003; Landy, 2005; Sojka & Deeter-Schmelz, 2002). Further, specific studies addressed real estate sales and showed that people can work on increasing their EI to be more successful (Crant, 1995; Cross, Brashear, Rigdon, & Bellenger, 2007; Kidwell, Hardesty, Murtha, & Sheng, 2011; Rozell, Pettijohn, & Parker, 2004).

O'Boyle, Humphrey, Pollack, Hawver, and Story (2011) determined through a meta-analysis study that EI is an important influencer in job performance. Joseph and Newman (2010) tested the EI metrics in an effort to predict job performance. Joseph and Newman (2010) found the EI metrics demonstrated validity and even exceeded job predictors such as the Big Five personality traits (agreeableness; conscientiousness, emotional stability, extraversion, and openness). Verbeke, Belschak, Bakker, and Dietz (2008) claimed EI in sales was the critical factor in determining sales performance. Although sales people might have a high general mental ability (GMA), they may still have low or disappointing sales performance if they lack EI competencies.

Kidwell, Hardesty, Murtha, and Sheng (2011) measured the effect of EI on the sales of real estate and insurance agents. While cognitive ability can allow sales professionals greater understanding regarding how their products function and how such benefit might be applied to prospective customers, having a high EI allowed the sales agents greater understanding and the ability to interpret the facial expressions and non-verbal communication cues. The sales agents with high EI were aware of their emotions and were able to manage those emotions through the highs and lows of the sales process (Punwatkar & Verghese, 2014). Real estate sales agents with high EI were better able to communicate with unreasonable, fearful, or angry prospective customers. Agents with high EI who can empathize and understand the emotions that might occur during the complex process of buying a home are more likely to develop positive customer relationships and close more sales (Kidwell, Hardesty, Murtha, & Sheng, 2012).

Emotional intelligence can be found in the underlying premise of two intelligences (interpersonal and intrapersonal) of Gardner's theory of multiple intelligences (Gardner, 1983, 1993). Goleman (1995) suggested interpersonal intelligence included the ability to recognize and react to the emotion of others in a manner such as empathy or compassion. Intrapersonal intelligence is the ability to perceive and manage one's own emotions in such a manner as self-awareness, self-motivation, and self-regulation.

Self-awareness is a person's perception of the manner in which one projects oneself to others; whereas self-regulation is the ability to manage one's emotions. Self-motivation is the ability for the person to motivate himself/herself internally rather than depend upon outside sources from others for motivation. Deeter-Schmelz and Sojka (2003) indicated sales people with high EI credited interpersonal and intrapersonal intelligences as key factors in their success. EI is a critical factor in determining a sales person's success. Although Sojka and Deeter-Schmelz (2001) have created EI exercises designed specifically for sales, valid and reliable research instruments are needed to more accurately measure the correlation between EI and sales performance.

Snyder, Claffey, and Cistulli (2011) analyzed similarities between how real estate agents handled dealing with burnout similar to other workers who held human-service jobs. This study may be important because burnout may be a factor associated with having empathy when dealing with stressed clients. Bar-On (2006) included stress tolerance, impulse, and control as part of his definition of stress-management scales in the area of emotional intelligence. Snyder et al. chose to compare real estate agents with human-service jobs due to the interests of their brokers and clients that agents must consider and the stress that might ensue from this. The authors surveyed 287 real estate agents to determine their empathetic responses. The area of EI importance exists because empathy is often included as a factor in Goleman's and Bar-On's definitions (Salovey, Brackett, & Mayer, 2007).

Other authors have addressed the area of burnout in the real estate industry. Love, Goh, Hogg, Robson, and Irani (2011) acknowledged the importance of interpersonal contact within the real estate industry. Salovey et al. (2007) explained that having interpersonal skills was a key component of EI as defined by Bar-On. Although Love et al. (2011) did not specifically use the wording emotional intelligence in their study, the fact that they researched interpersonal contact and its relationship to burnout is important to the area of EI research. Their results indicated that it was important to real estate brokers' health promotion to understand the stress obtained from interacting with clients.

Castleberry and Shepherd (1993) acknowledged the importance of interpersonal skills in sales people. Although, they do not specifically address real estate agents, Castleberry and Shepherd acknowledge an important point about the lack of research available regarding interpersonal skills and effective listening ability in sales professionals. These qualities may be an important part of a real estate agent's daily requirements. The importance of improving EI in sales has been demonstrated by Kidwell et al. (2011, 2012) and found that EI improved performance which may be important in buyer and seller interactions.

The importance of EI in real estate professionals may be important from the broker's perspective. Eppler, Honeycutt, Ford, and Markowski (1998) explained that hiring the correct real estate professional can reduce cost by reducing poor performance and turnover. Eppler et al. (1998) believed it was important to research self-monitoring and adaptiveness in real estate agents; their results indicated there was a positive relationship between these factors and income. Adaptability is another major area of an emotional intelligence skill as defined by Bar-On (Salovey et al., 2007). Many of the EI skills as defined by Bar-On were the reason Hamilton (2008) chose his EQ-i instrument to measure EQ in mortgage professionals.

DATA AND METHODOLOGY

Drs. Swanson, Hamilton, and Zobisch completed an exploratory survey on the topic of applying emotional intelligence with real estate professionals. Due to the lack of research that has been conducted on this topic, it was necessary to do exploratory research to determine if there is a need for further study. Exploratory design is "...conducted about a research problem when there are few or no earlier studies to refer to. The focus is on gaining insights and familiarity for later investigation or undertaken when problems are in a preliminary stage of investigation" (Exploratory Design, 2014, para. 1). Linkedin and Facebook were used to contact potential real estate professionals; thirty-one participants responded to the survey. Eight questions relating to emotional intelligence and the real estate profession were asked of the participants and three questions gathered demographic information (gender, years of experience, and state of real estate licensure).

RESULTS

Thirty-one participants were deemed experts in the field of real estate and participated in the survey. The following data was pulled from Survey Monkey (Table 1). Consensus was achieved for four of the questions (1, 3, 4, and 6). Twenty participants indicated that they would be willing to participate in a beta test of online, asynchronous training on emotional intelligence.

Table 1: Participants Responses to Emotional Intelligence and Real Estate Survey

Question	Agree	Disagree	Neither Agree or Disagree
1: Emotional intelligence is the ability to identify and manage your own emotions and the emotions of others. It is generally said to include three skills: Emotional awareness, including the ability to identify your own emotions and those of others; The ability to harness emotions and apply them to tasks like thinking and problems solving; The ability to manage emotions, including the ability to regulate your own emotions, and the ability to cheer up or calm down another person." (Psychology Today, 2014) Kidwell, Hardesty, Murtha, and Sheng (2011) stated, "Sales professionals with higher EI are not only superior revenue generators but also better at retaining customers" (p. 78). Emotional intelligence may have positive results on my real estate business.	31 (100%)	0 (0%)	0 (0%)
2: Emotional intelligence may be learned and improved on.	27 (87.1%)	0 (0%)	4 (12.9%)
3: A Realtor™ may use emotional intelligence to improve his or her work performance.	31 (100%)	0 (0%)	0 (0%)
4: When working with clients, emotional intelligence is one of many tools that may be useful.	31 (100%)	0 (0%)	0 (0%)
5: Emotional intelligence could be included as a Continuing Education Unit (CEU) for Realtor™ curriculum. "CEU stands for Continuing Education Unit. A CEU is a unit of credit equal to ten hours of participation in an accredited program designed for professionals with certificates or licenses to practice various professions." (Source: www.orau.gov/tdd/CEUs.pdf)	26 (83.87%)	0 (0%)	5 (16.13%)
6. Emotional intelligence may benefit me when working with an emotionally distraught client.	31 (100%)	0 (0%)	0 (0%)

This table shows the consensus that was achieved with 31 participants who were deemed to be experts in the field of real estate.

CONCLUDING COMMENTS

The results of this study showed that real estate agents agreed that EI may have positive results on their business. They understood that EI could be improved. They may use it as one of their tools when working with clients and may benefit them when working with emotionally distraught clients. The majority also believed it could be important to include as part of their continuing education requirements.

The study addressed real estate agents perceptions of the importance of EI based on providing them with a simple definition. It may be important to delve more deeply into their perceptions of the importance of emotional intelligence. This might be achieved by discovering the agents' levels of emotional intelligence also known as their emotional quotient (EQ). This EQ measurement may be obtained by having agents take an assessment like the EQ-i. The EQ-, created by Reuven Bar-On, is one of the most valid instruments for collection of EQ (Hamilton, 2008). If such an instrument was used, the data could be correlated with other factors such as sales performance. This would allow for examination of levels of EQ. The current study examined simply the perception of EQ.

Although this study gave some initial insight into how real estate agents' perceptions of EI, it may be important to add to this research based on the results from the asynchronous training. The twenty participants might be able to add some more perspective as to their impression of the importance of EI training after they have completed it. It might be an important opportunity to ask open-ended qualitative questions about how what they believe could be gained specifically from improving EI in real estate professionals.

Additional quantitative research could also provide further insight. Questions about specific aspects of EI could addressed. EI issues like stress management and interpersonal skills could be important to address. Answers that require a Likert-like scale of 1-5 for responses could also achieve more usable data.

The purpose of this study was to conduct a detailed literature review to see if the topic of emotional intelligence and real estate professionals had been addressed. Few studies have been completed that address this population. Hamilton (2008) showed a correlation between sales performance and EI in mortgage sales professionals. Although this is a somewhat similar industry, it has unique differences. If sales performance could be correlated with EI in real estate agents, this could provide useful information. Neils, Quoidbach, Mikolajczak, and Hansenne (2009) found EI may be improved. Therefore, if real estate agents could utilize techniques to improve levels of EI, there may be a correlating improvement in performance. Only further research could help determine this.

Strengths and limitations of the study exist. A strength was the ability to generalize these results throughout the overall population of real estate professionals. A limitation of the study included the self-reporting of participants. Future research will be conducted in the area of EI and real estate professionals, specifically administering the MSCEIT to real estate professionals.

Best practices to include in the field and study of real estate sales professionals are as follows: 1.) Interpersonal, 2.) Intrapersonal, and 3.) Training in EI. Interpersonal skills are most useful for real estate agents to include the ability to empathize and recognize a wide range of emotions in others as well as the ability to calm the fears or anxiety of prospective homeowners (Deeter-Schmelz & Sojka, 2003; Goleman, 1998). Intrapersonal skills are most useful for real estate agents to include self-awareness, the ability to project one's desired image to others; self-regulation, the ability to manage one's emotions; and self-motivation, the ability for the real estate agent to motivate internally rather than depend upon outside sources for motivation (Deeter-Schmelz & Sojka, 2003; Goleman, 1998). The survey used for this research study provided results that supported the need for training on EI for real estate professionals. One-hundred percent of the participants agreed that "Emotional intelligence may have positive results on my real estate business"; "Emotional intelligence may have positive results on my real estate business"; "When working with clients, emotional intelligence is one of many tools that may be useful"; and, "Emotional intelligence may benefit me when working with an emotionally distraught client". Eighty-seven percent of the participants agreed that "Emotional intelligence may be learned and improved on."

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Dr. Diane Hamilton (diane.hamilton@ashford.edu) is a full-time Assistant Professor in the Forbes School of Business at Ashford University. She earned her Ph.D. from Northcentral University, her Master of Organizational Management from University of Phoenix, and her Bachelor of Science in Business Management from Arizona State University. Dr. Hamilton has over 35 years of experience in industries such as software, pharmaceuticals, mortgage, and real estate. She specializes in management, marketing, and HR-related courses; although she enjoys some of her other courses which touch on ethics, foresight, and entrepreneurial issues. Dr. Hamilton stated, "I enjoy teaching a variety of courses. I also appreciate how experience has helped me be a better professor. I can relate to my students' issues because I have obtained all of my degrees while working full time." Dr. Hamilton, her husband Bob, and her two daughters all enjoy traveling and leading active outdoor lives.

Dr. Paula J. Zobisch (paula.zobisch@ashford.edu) is a full-time Assistant Professor in the Forbes School of Business at Ashford University. She earned her PhD in Adult Education from Capella University. Her Master of Business Administration with an emphasis in Marketing and her Bachelor of Science in Business are from the University of Central Oklahoma. Dr. Zobisch has over 20 years experience in the marketing field and has worked in business-to-business industrial sales and as a director of marketing for a 3M distributor. She teaches marketing management, consumer behavior, and marketing research courses at Ashford. Dr. Zobisch says, "I am a perfect example of how an adult can be successful and grow while attending school. I earned all of my degrees while working full time and raising a family, in addition to maintaining a home as a single parent. It seems the more I learn, the more I am aware how much there still is to learn." She resides in Broken Arrow, Oklahoma, and has two adult sons and four grandchildren. Dr. Zobisch enjoys outdoor activities, jumping the waves on her Sea Doo, is a certified Krav Maga instructor, and is currently working on her black belt, second level, in the Executive Black Belt Club in Tae Kwon Do.

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