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This Issue

National culture plays a strong role in enabling entrepreneurial organizations to be successful. Among other things, it can foster innovation, risk-taking, and flexibility in response to environmental uncertainty. With a supportive organizational culture, firms can achieve even greater successes in overall performance. This paper analyzes Poland's score and ranking on the Global Entrepreneurship and Development Index to determine how culture can help or hinder the country's ability to develop high impact entrepreneurship. National culture is analyzed using Hofstede's Six-Dimensional Model. Implications for developing an organizational culture, which fosters high-impact entrepreneurship and simultaneously complements Poland's values and traditions, are proposed.

Modern technology can eliminate the limitations traditionally attributed to barter. This case study examines the operation of modern Italian barter systems and the motivations of companies to join such systems. Data is collected through website content analysis, interviews with key members of the barter community and a quantitative survey of firms currently using barter networks. In this case study we triangulate the data to debunk the myth that barter is only useful in times of economic crisis and show that barter can represent a strategic answer to SMEs growth and dexterity, allowing increase sales and access to new markets.

Work-life conflict involves the competing demands of work and nonwork activities that often trigger feelings of stress and anxiety that can endanger individuals' professional and personal lives. As a result, organizations and nations have been encouraged to create more employee-friendly job arrangements in terms of where, when, and how individuals work. Providing employees greater choice and flexible work boundaries, however, often turns into work without boundaries creating problematic consequences for both firms and workers. This "always on" culture has been made possible by several factors most importantly by enhanced communication technology involving connectivity and immediacy that enable employees to communicate anytime and from anywhere. While organizations are addressing this imbalance and attempting to mitigate the often-negative effects of such professional-personal conflict, politicians have initiated legislation that attempts to switch off the 24-7-365 availability mindset by considering and sometimes adopting "right to disconnect laws."

Cloud computing and the Internet of Things (IoT) have transformed businesses, enabling agile and cost-effective IT infrastructure. The challenge is that these new opportunities create a co-mingled architecture which is difficult to secure. The complexity of this architecture is magnified with the IoT. Based on interviews with executive leadership teams and boards of directors facing these new environments, we developed the over-arching research question: How do we secure increasingly dynamic architecture in an environment while supporting and creating agile business growth? We then narrowed this down to more specific questions dealt with in this study. The research involved an in-depth exploration of this problem using a survey instrument and multiple qualitative methods involving business leaders from 59 companies between 2017 – 2018. Based on this analysis, we developed an information security framework for executives in this new environment that builds on previous work. This framework is called the Extended Risk-Based Approach and provides businesses with an approach for securing an enterprise amidst the IoT and agile architecture. Importantly, the data analyzed suggests that this approach is critically needed to address the rapidly growing complexity of enterprise architecture and the digital world we live and work.

Investigations of corporate failure prediction research usually implement binary classification into one of the distinguished groups – Distress or non-Distress companies. This study looks at a tri-dimensional approach which cluster firms into three (3) distinct dimensions namely - non-distress, semi-distressed and distressed. The study used secondary data from 2011 to 2015 obtained from the Ghana Stock Exchange (GSE) spanning across six industries, namely, Banking & Finance, Distribution, Food & Beverage, Insurance, Manufacturing and Mining & Oil. The study initially adopted the Altman (1968) Z score bankruptcy model to classify companies into non-distress, semi-distressed and distressed. Further analysis was conducted using the Hierarchical agglomerative cluster analysis to cluster companies into non-distress, semi-distressed and distressed. A comparison was then made between the Hierarchical agglomerative clustering against the Altman (1968) Z score bankruptcy classification to obtain higher classification. The outcome of the analysis revealed that the Hierarchical agglomerative cluster analysis and the Altman (1968) Z score bankruptcy model can both be used to classify companies into non-distress, semi-distressed and distressed based on the tri-dimensional approach instead of the binary classification (distressed and non-distressed). The study recommends that future research can explore other clustering methods for bankruptcy prediction to achieve higher and better classification.

Online sellers need to provide information about used products. This study answers two important related questions: (1) what kinds of product information should online sellers provide, and (2) how do different kinds of used product information affect online buyers' preference and perception of quality? We find that when a used product is a high-involvement one, buyers' preference of the product is more influenced by its physical condition than by price; however, when the product is a low-involvement product, its price is more important than the physical condition. Other information cues have a less significant impact on buyers' preference.

There is an immediate need to promote rural areas, where Mexico's highest poverty is concentrated, but the most potential exists for future development. The preferences of the new modern tourist are based mainly on living experiences rather than just sights and souvenirs. The creative experience as the basis of Creative Tourism can be adopted by agrotourism, a type of Rural Tourism, that consist of tourist activities which are based on experiences that natives in the rural area experience on a daily basis. Thirty tourists from 18 to 23 years of age participated in agrotourism activities such as ointment workshops, food workshops, pulque (an alcoholic beverage made from the fermented sap of the maguey- agave- plant) preparation workshops, embroidery workshops, farming workshops, and a guided trip to the ecological reserve.

With the use of narratives, experience maps, and audiovisual materials, the results show that the essence of Creative Tourism was understood as active participation and creativity. Many of the participants expressed novelty as a written and graphic expression of creative tourism which enabled them to have a better overall experience. This finding suggests that agrotourism should include different aspects of creative tourism as part of a "creative experience" for those in charge of the tourism industry in Mexico.

Applying the Vector Error Correction (VEC) model and the VEC Granger causality/Wald Exogeniety tests, this paper investigated the causal relation between export, economic growth, and financial development of nine South and South East Asian countries during 1974-2015. The significance of the error correction term (ECT) established short and long run dynamics. The VEC Granger causality/Wald Exogeniety tests found bidirectional Granger causality between economic growth (GDP) and export (EXPRT) in Malaysia, Singapore, and Thailand. Unidirectional causality running from EXPRT to GDP was found in Bangladesh, Pakistan and Sri Lanka. Unidirectional causality running from GDP growth to export was found in India. Bidirectional Granger causality between financial development (BKCRDT) and export growth was found in Thailand. Pairwise Granger causality results, because of lack of cointegration, found that GDP Granger caused EXPRT in Indonesia.

The paper provides policy prescription that the governments should provide emphasis on promoting and protecting the export industries that promotes the economic growth of the countries.

Research on entrepreneurial opportunity recognition has tended to ignore the context variable of place (local city) or to explore opportunity recognition in large, thriving city settings. We describe effects of the declining city on nascent entrepreneurship. We then develop propositions for how the nascent entrepreneur's sense of the home city's decline weakens the otherwise positive link between four antecedents and entrepreneurial opportunity recognition. We close with a discussion of universities' entrepreneurship involvement and collegiate entrepreneurship education in declining cities and describe the Invent Penn State initiative in Scranton, Pennsylvania.

Entrepreneurship has grown into a full-fledged, vibrant discipline, not only drawing on but also spawning a spectrum of research streams with various theoretical perspectives and empirical evidence. However, strategy journals had traditionally been home to many earlier entrepreneurship research insights. How has the intellectual structure of the entrepreneurship research published in strategic outlets evolved, given the disciplinary maturity of entrepreneurship? To answer this question, we performed a visual bibliometric analysis on the full archive of 25 years' research on entrepreneurship published in a leading strategy journal. Our results uncover the intellectual development trajectory around entrepreneurship research targeted at strategy venue, and reveal the key elements such as research methods, level of analysis, variables, and correlations about such a body of research. This study provides an important starting point for reflecting on the particularities of boundary-crossing entrepreneurship research, and for identifying further avenues of theoretical and empirical inquiries.

As consumers use the retail price as an estimator of product quality, the producer expects the retail price to efficiently signal the quality information. However, in the presence of price competition among retailers, consumers cannot predict quality by observing prices because they cannot identify whether the price discounts result from quality downgrade, or just retail supply's increase. Since market price movements send noises over quality judgement, the producer uses resale price maintenance to control noises from retail supply. When resale price maintenance is prohibited by antitrust law, a rational expectations model predicts that the manufacturer can replace resale price maintenance with advertising.

This study explored the impacts of the coverage of the Liberation War of Bangladesh in 1971 by the New York Times. In the backdrop of the Cold War phenomena the United States reportedly took a position against Bangladesh's liberation while the war created a humanitarian orgy of killings, rapes, and the dislocation of millions of people. The war impacts still haunt the nation as the incumbent Bangladesh government began trials of "war crimes" and already executed some opposition leaders for alleged collaboration with the Pakistani Army. As the first textual analysis of the Times' coverage of the Bangladesh War in the postcolonial era, the study revealed that the Times played a humanitarian role but was seemed influenced by the confrontation with the Nixon Administration on secret papers and policies of wars, popularly known as "Pentagon Papers."

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Domain Statement

The *Journal of Applied Business and Economics* is dedicated to the advancement and dissemination of business and economic knowledge by publishing, through a blind, refereed process, ongoing results of research in accordance with international scientific or scholarly standards. Articles are written by business leaders, policy analysts and active researchers for an audience of specialists, practitioners and students. Articles of regional interest are welcome, especially those dealing with lessons that may be applied in other regions around the world. This would include, but not limited to areas of marketing, management, finance, accounting, management information systems, human resource management, organizational theory and behavior, operations management, economics and econometrics, or any of these disciplines in an international context.

Focus of the articles should be on applications and implications of business, management and economics. Theoretical articles are welcome as long as their focus is in keeping with *JABE's* applied nature.

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- Generate an exchange of ideas between scholars, practitioners and industry specialists
- Enhance the development of the Business and Economic disciplines
- Acknowledge and disseminate achievement in regional business and economic development thinking
- Provide an additional outlet for scholars and experts to contribute their ongoing work in the area of applied cross-functional business and economic topics.

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Articles should be submitted following the American Psychological Association format. Articles should not be more than 30 double-spaced, typed pages in length including all figures, graphs, references, and appendices. Submit two hard copies of manuscript along with a disk typed in MS-Word.

Make main sections and subsections easily identifiable by inserting appropriate headings and sub-headings. Type all first-level headings flush with the left margin, bold and capitalized. Second-level headings are also typed flush with the left margin but should only be bold. Third-level headings, if any, should also be flush with the left margin and italicized.

Include a title page with manuscript which includes the full names, affiliations, address, phone, fax, and e-mail addresses of all authors and identifies one person as the Primary Contact. Put the submission date on the bottom of the title page. On a separate sheet, include the title and an abstract of 200 words or less. Do not include authors' names on this sheet. A final page, "About the authors," should include a brief biographical sketch of 100 words or less on each author. Include current place of employment and degrees held.

References must be written in APA style. It is the responsibility of the author(s) to ensure that the paper is thoroughly and accurately reviewed for spelling, grammar and referencing.

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Structuring Organizational Culture to Complement Poland's National Culture – An Approach for Achieving High Impact Entrepreneurship

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National culture plays a strong role in enabling entrepreneurial organizations to be successful. Among other things, it can foster innovation, risk-taking, and flexibility in response to environmental uncertainty. With a supportive organizational culture, firms can achieve even greater successes in overall performance. This paper analyzes Poland's score and ranking on the Global Entrepreneurship and Development Index to determine how culture can help or hinder the country's ability to develop high impact entrepreneurship. National culture is analyzed using Hofstede's Six-Dimensional Model. Implications for developing an organizational culture, which fosters high-impact entrepreneurship and simultaneously complements Poland's values and traditions, are proposed.

INTRODUCTION

This paper explores the relationship between the national cultural orientation of Poland, organizational culture, and high impact entrepreneurship. Toward that end, three objectives are pursued. The first is to present Poland's scores on Hofstede's six dimensions of national culture. The second is to discuss Poland's position and that of the top 10 ranking countries on the Global Entrepreneurship and Development Index (GEDI). The third is to provide a set of recommendations for the creation of an organizational culture that fosters high impact entrepreneurship, given the composition of Poland's national culture.

High impact entrepreneurship is important because it helps improve a country's economy and people's lives. It does so by creating jobs, developing technology that improves efficiency, creating innovative solutions to problems, and exchanging ideas globally. Many of the conditions that entrepreneurs help also assist the overall economy and provide broader societal gains (Acs, Szerb, Lloyd, 2018). In the context of this paper, entrepreneurship is driven not by necessity, but by opportunity. A definition formulated by Howard Stevenson of the Harvard University Business School is that "entrepreneurship is the pursuit of opportunity beyond resources controlled" (Eisenmann, 2013). Entrepreneurs are people who envision scalable, high-impact businesses. They make visions become realities as they pursue a novel opportunity. They do so in the absence of access to required resources and while facing considerable risk. Shane and Venkatraman (2000) view entrepreneurship as the nexus of two phenomena: lucrative opportunities and enterprising individuals. They write that it is the "scholarly examination of how, by whom, and with what effects opportunities to create future goods and services are discovered, evaluated, and exploited (p. 218). Timmons (1999) views entrepreneurship by focusing on the individuals engaged in the process. Entrepreneurs are those who search for opportunities, and upon finding them, shape them into high-potential ventures by drawing up a team and gathering the required resources to start a business that capitalizes on those opportunities. Clearly, there are variations in the definitions of entrepreneurship, but there is a common thread. Most definitions indicate that entrepreneurs are people with the vision to see an innovation and the ability to bring that innovation to market (Acs, Szerb, Lloyd, 2018).

When business leaders and academics are asked to discuss entrepreneurship, they frequently allude to the creation and growth of new ventures and innovation. This is contrasted with small businesses, which are not viewed as entrepreneurship. As such, this paper distinguishes between small business owners who duplicate what others are doing and an entrepreneur who innovates. High impact entrepreneurship is fundamentally related to innovation and an ambition to grow a business. It encompasses a subset of firms that grow rapidly (Henrekson and Sanandaji, 2014). The World Economic Forum defines high-impact entrepreneurs as people who launch and grow companies that have above average impacts on wealth and job creation. Their companies have societal impacts in their communities that improve standards of living. High impact entrepreneurs stand out in many respects – their companies create more jobs, grow faster, contribute more to society, and transform industries to an extent greater than their peers (Lontoh, 2017). Their success depends on an institutional and cultural environment filled with the necessary capital and new opportunities created by knowledge spillovers (Stenholm, Acs, and Wuebker, 2013).

Entrepreneurial activities are irretrievably embedded in cultural norms and values (Granovetter, 1983). The link between a nation's cultural values and entrepreneurship is important for understanding how entrepreneurs think and act. It is also important because culture can both magnify and mitigate the impact of institutional and economic conditions on entrepreneurial activity (Hayton and Cacciotti, 2013). National culture has been found to explain the variance in entrepreneurial innovation-growth relationships (Rauch, Frese, Wang, Unger, Lozada, and Kupcha, 2013). Differences in entrepreneurial activity among countries and even regions within those countries are persistent. They cannot be explained by economic or institutional variables. Research has shown that a substantial part of those differences can be attributed to culture (Krueger, Linan, and Nabi, 2013). Overall, these studies demonstrate that culture plays a significant role in fostering innovation and entrepreneurial activity.

While cultural values are invisible, they strongly affect all who seek to innovate, market ideas, engage in entrepreneurship, and manage a company. They are rooted in and "are a part of our daily life" (Martin and Lopes, 2016, p. 579). Geert Hofstede (1991) studied the cultural values of nearly 200 countries. He suggests that behavior is produced by adopted cultural values and that behavior at work is a continuation of behavior learned earlier. According to Hofstede's work, Poland's national culture can be described as one where its people value high power distance, collective rather than individualist behavior, masculine virtues, a high degree of certainty in daily living, a short term orientation to time, and restraint over impulses and desires. This cultural orientation raises the question as to whether high-impact entrepreneurship can flourish in Poland. The country's ranking of 30 and score of 50% on the GEDI suggest that it may be possible provided that firms develop an organizational culture that supports the effort. The argument being advanced is that Poland's cultural orientation may be inhibiting high impact entrepreneurship as evidenced by the country's 2018 GEDI score. It is believed that selecting the appropriate staff and developing a supportive organizational culture can result in innovation and high impact outcomes.

CHANGING ORGANIZATIONAL CULTURE TO COMPLEMENT NATIONAL CULTURE

The challenge confronting entrepreneurs in Poland is to determine how to develop an organizational culture that fosters innovation and an entrepreneurial spirit while overcoming what seems to be a contradiction with national culture. Hofstede (2012) indicates that cultural values are acquired in childhood and passed on from generation to generation. They are invisible and can only be inferred. They change over time because of external influences, based on their own logic; they are unchangeable by anyone. International managers are urged to view them as material with which they have to work. Organizational culture, by contrast, is visible, through symbols, heroes, and rituals. It consists of practices. Culture at this level can be changed and effectively managed. International and multinational companies always have employees with different national values. They function through a shared corporate or organizational culture based on common practices. Establishing, monitoring and adapting organizational practices are core tasks for international managers. According to Hofstede (2012), proper practices are what keep multinationals together.

Structuring an organizational culture to complement national values does not mean that those constructs are directionally parallel. In this paper, to "complement" means aligning or integrating two levels of culture – national and organizational – that may be running in different directions.

An organizational culture that fosters high impact entrepreneurship and complements Poland's national culture requires human resource (HR) practices, work structures, and business processes that enhance a firm's levels of creativity, innovation, and entrepreneurial behavior. HR practices that facilitate these ends include rigorous and selective staffing, extensive training and development, flexible job assignments, merit-based performance appraisal, and competitive overall compensation (Takeuchi, Lepak, Wang, and Takeuchi, 2007).

To foster entrepreneurship, the key is to strategically encourage innovative behavior by hiring the right people from the labor market. Entrepreneurs need to hire individuals with the appropriate knowledge, skills, and abilities to do their jobs. Those individuals have no personal culture, but do have personalities. Their personalities are partly influenced by the culture in which they grew up, but with a large range of personal variance due to many other factors (Hofstede, 2012). So despite its national culture, Poland has the individuals who possess the knowledge, skills, and personalities needed for high impact entrepreneurship; and hiring them does not contradict Poland's national culture. What needs to be remembered is that the concept of "culture" does not apply at the level of individuals. Hofstede writes that "individuals have personalities, which are only partly influenced by the culture in which they grew up" (Hofstede, 2012, p. 402). Beyond hiring the right people, entrepreneurs can foster innovative behavior by providing incentives and creating an organizational culture that values that behavior (Hayton, Hornsby, and Bloodgood, 2013-2014).

AIM OF THE PAPER

This paper discusses national and organizational culture and suggests how they can be successfully managed to develop high impact entrepreneurship in Poland using the experience of the USA as an example. The reason that the USA is chosen as a country against which Poland's entrepreneurship experience will be discussed is that it is ranked #1 on the GEDI. As a nation it has a high rate of new business start-ups and it breeds a constant flow of high impact entrepreneurial firms – the kinds that create value and stimulate growth by bringing new ideas to market. The USA has evolved a multi-dimensional system for culturally and economically nurturing high-impact entrepreneurship. It is a system that, with the right human resource and development policies, might be cultivated in many other countries as well (Schramm, 2004).

Organizationally, this paper is divided into three sections. The first describes national culture as viewed through the lens of Hofstede's Six-Dimension (6-D) Model. That section analyzes the culture of Poland using the scores from the model along with comparison scores for the USA. The second section describes the GEDI and details Poland's rank and score along with those of the USA and the top ten global entrepreneurship countries for comparison. The third section describes organizational culture and presents a set of recommendations for the development of high impact entrepreneurship in Poland.

SIX-DIMENSIONAL MODEL OF NATIONAL CULTURE IN POLAND

National Culture

Culture can be defined as the shared beliefs, values, identities, motives, and interpretations that result from common experiences of the majority members of a society, which are transmitted across generations (House, Hanges, Javidan, Dorfman, and Gupta, 2004). It can be described as a pattern or way of doing something that results from societal traditions and as the collective programming of the mind that distinguishes one society from another (Kroeber and Kluckhohn, 1952; Hofstede, 1991). The societal traditions, shared values, and collective programming that form culture influences how peoples' personalities develop and how they express their traits.

Though culture scholars do not agree on the precise meaning of culture, there is general agreement that culture works at different levels, the most fundamental being the national level (Nazarian, Atkinson, and Foroudi, 2017). Hofstede, Hofstede, and Minkov (2010) believe national culture is at the heart of the primary socialization process in early childhood. It gives people their beliefs and values.

National Culture from the Perspective of Geert Hofstede

The most well-known taxonomy of national culture was developed by Geert Hofstede. He conducted a landmark study in the 1960's and early 1970's in which he analyzed data from 88,000 employees at IBM who worked in 72 countries and spoke 20 languages (Hofstede, 2001; Kirkman, Lowe, and Gibson, 2006). He found that employees who worked in different countries tended to prioritize different values, which clustered into several distinct dimensions. Hofstede wrote that management theories were not universal. Rather, they were culture bound. He suggests that effective managerial behavior should be predicated on a firm understanding of cultural values (Hofstede, 1980a; Hofstede, 1980b; Hofstede, 1983; Hofstede, 1993, Hofstede, 1994, Hofstede, 1997; Hofstede, 2001). Hofstede's studies have been widely cited in the literature of various academic disciplines (Kirkman, Lowe, and Gibson, 2006) and in business, his model is the most commonly used one for understanding a nation's cultural values. His findings are often used to better understand entrepreneurship, management, and organizational behavior from a cross-cultural perspective.

Hofstede's Six Cultural Dimensions

Hofstede initially identified four dimensions of culture: power distance, individualism, masculinity, and uncertainty avoidance. Power distance is a measure of the degree to which societal members expect power to be shared. When a culture is high in power distance, people expect those with power to be treated differently than those without power. Differentiating people on the basis of status is prominent and acceptable. When a culture is low in power distance, differentiating people on the basis of status is not expected, nor desirable. Individualism is a measure of the extent to which people look after their personal interests. This is contrasted with collectivism, which refers to the extent to which people more closely identify with a group. In collectivist cultures people expect that members of the group will protect them. Masculinity is a measure of the degree to which people value competition, assertiveness, achievement, and acquisition of success or material goods. In contrast, femininity is associated with the degree to which people value nurturing, relationships, and a concern for others. Uncertainty avoidance has to do with the way that society deals with a future that is unknown: should we try to control the future or just let it happen? It is essentially a measure of a culture's collective tolerance for ambiguity. In cultures with high uncertainty avoidance, people develop clear rules and regulations to help reduce the uncertainty of the future. They are more comfortable in having an assurance of what is likely to happen in the future. In low uncertainty cultures, ambiguity and change are not considered a threat.

In later research studies (Hofstede and Bond, 1988), a fifth cultural dimension was added. It is called long-term orientation and refers to the extent to which members of a society encourage and reward future-oriented behavior, i.e., activities such as planning, investing in the future or delaying gratification. Long term orientation refers to culture's preference for perseverance, tradition, thrift, and a long run view of time (Robbins and Coulter, 2012). The original term, Confucian Dynamism, evolved from a view that "Asian values" were unique to a specific part of the world, a view that was later found to be false. Those values can be found in other parts of the world.

Further research on national culture uncovered a sixth dimension called indulgence/restraint (Minkov, 2013; Minkov and Hofstede, 2011). It is one that measures the degree to which a society permits or suppresses the expression of human desires. Indulgence/restraint refers to the extent to which people try to control their impulses and desires, based on the way they were socialized – the way they were raised. With indulgent cultures, people have very weak control, whereas with restrained cultures, people have relatively strong control over their desires.

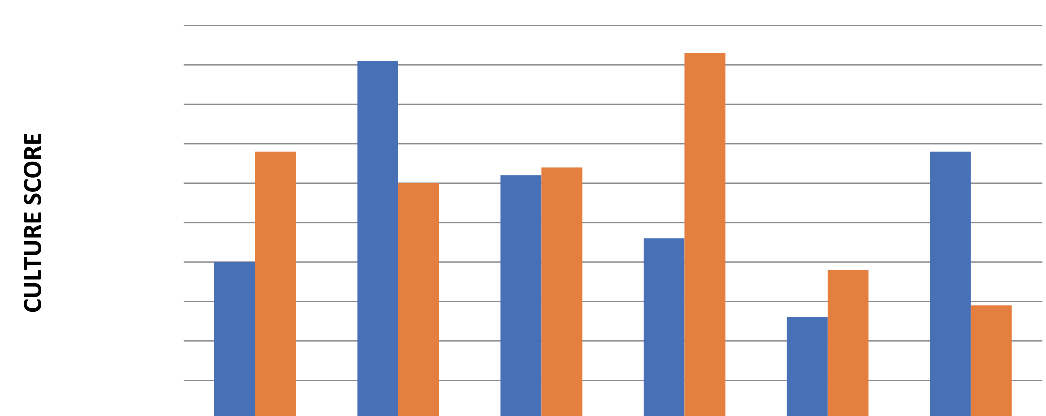
Poland's National Culture Using the 6-D Model

Based on the research conducted by Hofstede (detailed at www.hofstede-insights.com), Poland can be described using the lens of the 6-D Model. This provides an overview of the deep drivers of Polish culture as it relates to other world cultures. The results show that Polish culture is high on power distance and masculinity, moderate on individualism, very high on uncertainty avoidance, very low on indulgence, and short-term relative to its time orientation.

Power Distance (PDI)

Poland's PDI score of 68 indicates that it is a country whose people value a hierarchical society. People accept a hierarchical order where everybody has a certain place – without justification. In Poland, centralization is popular, organizations are seen as having inherent inequalities, and subordinates expect their supervisors and managers to tell them what to do. An ideal workplace superior can be described as a benevolent autocrat. Poland's relatively high PDI score may inhibit the development of high impact entrepreneurship because the culture does not encourage worker involvement, which is important to fostering creativity and innovation. The PDI and other five cultural dimension scores for Poland and the USA are shown in Figure 1.

FIGURE 1
SIX CULTURAL DIMENSION SCORES FOR POLAND AND THE USA



	PDI	IND	MAS	UA	LTO	INDUL
USA	40	91	62	46	26	68
POLAND	68	60	64	93	38	29

In the United States, where the PDI score is 40, there is a more equal distribution of power compared to Poland. The USA is a nation where people question authority and where individuals expect to participate in decisions that affect them. Leaders and managers are viewed as equals. In American culture, leaders must earn the respect of their followers; it is not gained as an entitlement by right of their office. One of the most salient aspects of power distance is the extent to which people can exert power over other individuals. Power is the degree to which a person is able to influence other people's behavior and ideas. In the USA, power relationships need to be participatory, democratic, and consultative. America's rather low PDI score indicates that its culture has a strong belief in equality for its people.

Individualism (IND)

With a score of 60, Poland is a moderately individualist society. This indicates that Poles value a loosely-knit social framework where individuals are expected to take care of themselves and only their immediate families. In individualist societies, the relationship between employers and employees can be likened to a contract predicated on mutual advantage. Hiring and promotions are typically based on merit only and managing is best considered to be the management of individuals.

Polish culture involves a conceptual contradiction. Although it is individualistic, Poles need a hierarchy. With a high score of 68 on power distance and a score of 60 on individualism, there is a tension in this culture. This inhibits high-impact entrepreneurship. As such, entrepreneurs and managers must know how to manage this delicate, but intense, relationship. A successful strategy might be to incorporate a second informal level of communication to increase employees' perceptions of importance to the organization.

Poland's IND score is in sharp contrast to the USA's score of 91. The United States has one of the most individualist cultures in the world. The society is loosely-knit and the expectation is that people take care of themselves and those closest to them. People do not rely much on authorities for support. Coupled with a lower power distance, Americans view hierarchy as a matter of convenience, and managers rely on individual employees or teams for their expertise. Both employees and managers expect to be consulted on relevant decisions and believe that information should be shared and communicated frequently. In business, communication is direct, informal, and somewhat participative. When at work, Americans interact with people they do not know well and as such, they are comfortable approaching their counterparts in order to obtain the information they need. Employees are groomed to show initiative and self-reliance. In the workplace, hiring and promotions are based on merit or what one has done or has the potential to do.

Masculinity (MAS)

Poland's MAS score of 64 indicates that it is a masculine society. In countries that value masculine ideals, success is defined by the winner or the best in one's field. The society is driven by competition and achievement. This is a value system that can be traced to enculturation in schools and it continues throughout organizational life. In masculine cultures, people "live in order to work" (www.hofstede-insights.com). In the workplace, managers are expected to be assertive and decisive. They emphasize equity, performance, and competition. Conflicts are resolved not by avoidance, but rather, by openly confronting the issues.

With a score of 62 on the MAS dimension, the USA can be seen as a country that values masculine ideals. Americans show their masculine drive individually, given that the USA is one of the most individualistic cultures in the world. Behaviors while in school, at work or play are based on the value that people should be the best they can be. It is also one that espouses a winner take all mentality. As such, Americans display and talk freely about their achievements and successes. Being successful is not as important as showing one's success. American employees have a "can-do" attitude, which serves to create dynamism in society. It is believed that there is always a better way in which to do things. Americans live in order to work so that they can receive monetary rewards and attain a higher societal status. It is believed that some conflict will bring out the best in people as it is one's life goal to be "the winner." Given this situation, there is much polarization and America has become a litigious society. This attitude and behavior undermines the American ideal of liberty and justice for all. It is thought that rising inequality is threatening democracy because an enlarging gap in economic classes is pushing power distance up and individualism down (www.hofstede-insights.com).

Uncertainty Avoidance (UAI)

Poland scores 93 on the UAI dimension, which means that its people value the avoidance of uncertainty. This high score suggests that the country maintains rigid codes of belief and behavior. Generally, the culture is intolerant of unorthodox ideas and behavior. People from cultures with high uncertainty avoidance have an emotional need for rules, even if they don't seem to work. They value time because it is thought to be money and they have an intrinsic urge to work hard and keep busy. Precision and punctuality are considered normal. Innovation may be resisted, which could inhibit high impact entrepreneurship.

With a score of 46, the USA scores low on uncertainty avoidance. Americans have a fair degree of acceptance for innovative products and ideas. They are willing to try new things that are different, regardless of whether it is technology, business practice, or food. Americans tend to have greater tolerance for ideas or opinions from anyone and generally allow their free expression. As a group they do not require a great deal of rules to deal with uncertainty. However, the events of 9/11 have instilled fear in American society resulting in governmental efforts to monitor people through the National Security Agency (NSA) and other security agencies. The USA's low UAI score, which entails a cultural tendency to minimize rules, allows high impact entrepreneurship to flourish.

Long-Term Orientation (LTO)

Poland's low score of 38 on this dimension of national culture indicates that its people are more normative than pragmatic. They have a strong concern for discerning the absolute truth. As a society, Poles prefer to maintain time-honored norms and traditions. They tend to view societal change with suspicion. They are normative in their thinking. They greatly respect traditions, have a relatively small propensity to save for the future, and focus on achieving quick results. Unlike Poland, cultures with a high LTO score are typically pragmatic. Their people are thrifty and they view modern education as a means to better deal with the uncertainties of the future.

The USA's score of 26 is considered low, which makes Americans even more short-term oriented than Poles. They tend to analyze new information to verify that it is truthful. American culture cannot be described as pragmatic – it is normative. However, this is different from being practical; Americans have a "can-do" mentality. They also have strong opinions on what is good and evil. Businesses in the USA measure their financial and organizational performance on a short-term basis. Profit and loss statements, for example, are issued quarterly and individuals in the workplace strive for quick results, not necessarily of the highest quality.

Indulgence (INDUL)

With a score of 29, Poland is low on the indulgence dimension. Its culture is one of restraint. Societies with a low score on INDUL tend to be cynical and pessimistic. They do not emphasize leisure time. People in restrained cultures tend to control the gratification of their desires. They have the perception that social norms control and restrain them. They believe that "indulging themselves is somewhat wrong" (www.hofstede-insights.com/country-comparison/poland, p. 5). While restraint may have its place, it could be that it stifles the indulgent thought necessary for high impact entrepreneurship to thrive.

In stark contrast to Poland, the INDUL score for the USA is high at 68. This means that people in the USA tend to have relatively weak control over their impulses. As a culture, Americans are indulgent. They value working hard as well as playing hard. This manifests itself in some apparent contradictions. The USA has waged a war against drugs and is quite busy fighting that war. But drug addiction in America is higher than in many other wealthy countries. The USA tends to be a prudish society – one excessively concerned with sexual propriety – yet some well-known televangelists have been exposed because of their immoral behaviors.

Does indulgence as a cultural dimension help or hinder entrepreneurship? Of the top ten GEDI ranked nations, the mean INDUL score is 67 (Median = 68, Range = 48-71). Based on these data, which include the USA, indulgent cultures seem to be associated with more developed, higher-impact entrepreneurship.

POLAND'S GLOBAL ENTREPRENEURSHIP AND DEVELOPMENT INDEX SCORE

In an effort to assess high impact entrepreneurial success, Professors Acs and Szerb created the GEDI. The most recent edition of the Index was published for 2018 (Acs, Szerb, and Lloyd, 2017). It represents a composite indicator of the health of the entrepreneurship ecosystem in a particular country. The GEDI measures the quality of entrepreneurship as well as the depth and extent of the entrepreneurial ecosystem that supports it.

The basic purpose of the GEDI is to measure a country's success in producing high quality and high impact entrepreneurial enterprises. The Index goes beyond measuring the self-employment rate or the start-ups in a country. Rather it measures the potential impact of the entrepreneurship that is occurring in countries. It does this by examining three aspects of high-quality entrepreneurship: attitudes, activity, and aspiration. *Attitudes* measure things that relate to the national perception of the value of entrepreneurship to the economic success of a country. The *activity* dimension measures the level of start-ups in a country's technology sector. *Aspiration* measures the activities of entrepreneurs in a country to introduce new products into the market and expand their enterprises. The GEDI includes a score and a rank for most countries on these combined dimensions to show what is believed to be true entrepreneurial success (Rarick and Han, 2015).

Table 1 summarizes the GEDI score and rank data for Poland and the USA. The data indicate that of the 137 nations included in the 2018 GEDI, Poland ranks #30, which is an improvement over its rank of 31 in 2017. Its GEDI score is 50.4%, which is 3.8 percentage points higher than it was in 2017. The USA ranks #1 on the Index with a GEDI score of 84%, which is 0.6 percentage points higher than in 2017.

TABLE 1
GEDI RANKS AND SCORES FOR POLAND AND THE USA

Countries	**GEDI rank 2018**	**GEDI rank 2017**	**GEDI score 2018**	**GEDI score 2017**
Poland	30	31	50.4%	46.6%
USA	1	1	84.0%	83.4%
Europe - region			49.1%	46.9%
North America - region			63.0%	61.5%

Over the last year, GEDI scores have improved globally by an approximate average of 3%. Between 2017 and 2018, this "3% improvement could add $7 trillion to the global GDP because institutions that support entrepreneurs also positively impact the economy as a whole" (Acs, Szerb, and Lloyd, 2017, p. 6). Several regions of the world surpass the average improvement in GEDI score over the last year. They include the South and Central American region at 4.6%, the Asia-Pacific region at 4.0%, and the European region at 3.4%. A strategy that the European region could implement to realize the quickest gains might be network improvement (Acs, Szerb, and Lloyd, 2017, p. 6). The key to accomplishing this would be to support the geographic, social and cultural networks that connect entrepreneurs. Poland could use this strategy along with alignment of its organizational culture to enhance its future GEDI score and rank.

Table 2 provides a summary of the GEDI and six cultural dimension scores for the top ten entrepreneurially-oriented countries in the world. The data for Poland are also included for comparison.

TABLE 2
TOP TEN GEDI COUNTRIES AND CULTURAL DIMENSION SCORES

Country	**GEDI Rank**	**GEDI Score**	**PDI**	**IND**	**MAS**	**UAI**	**LTO**	**INDUL**
United States	1	83.6	40	91	62	46	26	68
Switzerland	2	80.4	34	68	70	58	74	66
Canada	3	79.2	39	80	52	48	36	68
United Kingdom	4	77.8	35	89	66	35	51	69
Australia	5	75.5	36	90	61	51	21	71
Denmark	6	74.3	18	74	16	23	35	70
Iceland	7	74.2	30	60	10	50	28	67
Ireland	8	73.7	20	70	68	35	24	65
Sweden	9	73.1	31	71	5	29	53	78
France	10	68.5	68	71	43	86	63	48
Poland	**30**	**50.4**	**68**	**60**	**64**	**93**	**38**	**29**

Entrepreneurship can be explained by a host of factors, one of which is culture (Cacciotti and Hayton, 2017). In a study that analyzed the relationship between national culture and entrepreneurial mindset, it was found that individualism is a strong predictor of entrepreneurial activity in top ranking GEDI countries. Uncertainty avoidance was also found to be a strong, and power distance a moderate, predictor of entrepreneurial success in top ranking GEDI countries (Rarick and Han, 2015).

The data summarized in Table 2 indicate that high impact entrepreneurial nations are those with cultures that value low power distance (PDI). This is true except for France whose PDI score is 68, exactly the same as the score for Poland. In low power distance cultures status and power differentials are neither expected nor desirable. High impact entrepreneurship countries also have individualistic (IND) cultures whose people care most about themselves and those closest to them. They value people's rights and responsibilities and expect societal members to care for themselves. Poland is slightly more collectivistic with a score of 60, compared to the top ranked GEDI countries, whose scores range from 70 to 91. The exception to this is Iceland, whose score is 60 – the same as Poland's. These data are consistent with the findings that culture may "play an important part in the entrepreneurial success of a country" (Rarick and Han, 2015, p. 124). According to Rarick and Han (2015), countries low in power distance and high in individualism appear to have an edge in fostering high impact entrepreneurship. Nations with those cultural dimensions have individuals who take responsibility for themselves and systems that allow social mobility and the sharing of power and resources.

The data in Table 2 also show that low to moderate uncertainty avoidance (UAI) is a characteristic of high impact entrepreneurship prevalent among the top ten ranked GEDI countries. The exception to this generalization is France, whose UAI score is 86, not unlike Poland's score of 93. Low uncertainty cultures view change and ambiguity as opportunities, rather than threats. Rules and regulations to manage the uncertainty of change are unnecessary and this offers entrepreneurs an environment conducive to business and innovation. Finally, high impact entrepreneurship appears to be associated with indulgent cultures. Except for France, whose INDUL score is 48, most top ranking GEDI countries have cultures that value expressing, rather than restraining, their impulses and desires. Poland seems even more restrained with an INDUL score of 29.

These data suggest that some of Poland's cultural dimension scores run counter to the direction of scores for the top 10 countries on the GEDI listing. Notwithstanding this situation, Poland has opportunities to grow its high impact entrepreneurship. Of importance is the fact that it is a populous member of the European Union. Relative to the EU's GEDI scores, the United Kingdom and France are among the top 10 ranking countries, 4th and 10th, respectively. Poland ranks in 30th, with Germany being in 15th, Spain in 34th, and Italy in 42nd place. While the UK, France, and Germany are well-developed and balanced over the three GEDI dimensions – attitudes, activity, and aspiration – Poland, Spain, and Italy show less entrepreneurial efficiency. It is speculated that the somewhat weak economic performance of the EU countries over the last ten years is their low level of entrepreneurship. Europe is struggling to address the problem of not having its own cadre of billion-dollar companies (Acs, Szerb, Lloyd, 2017). An understanding of culture may be the answer. The remainder of this paper will focus on how organizational culture can be managed to complement Poland's national culture so as to improve entrepreneurship.

DEVELOPING AN ORGANIZATIONAL CULTURE FOR HIGH IMPACT ENTREPRENEURSHIP IN POLAND

It is not unreasonable to suggest that there are about as many definitions of organizational culture as there are people who study it. There are at least fifty different definitions (Verbeke, Volgering, and Hessels, 1998). The various definitions of organizational culture relate strongly to the structural paradigm of the people who have studied it. In this paper organizational culture is defined as the "shared social knowledge within an organization regarding the rules, norms, and values that shape the attitudes and behaviors of its employees" (O'Reilly, Chatman, and Caldwell, 1991, cited in Colquitt, Lepine, and Wesson, 2013, p. 518).

This definition implies, first, that culture is social knowledge held by organizational members. Workers learn about aspects of their company's culture through other workers. This transfer of knowledge could be through networking, simple observation, or explicit communication. The knowledge transferred is shared, which means that workers understand and have some degree of agreement on what the culture is. Second, this definition tells workers what the norms, values, and rules are within the workplace. Examples might be describing (1) what behaviors are appropriate or inappropriate and (2) how a person should act or dress at work. Some organizational cultures may even dictate how workers should act when they are not at work. Third, organizational culture shapes and reinforces certain attitudes and behaviors by exerting a system of control over workers (O'Reilly and Chatman, 1996). Individual goals and values tend to grow over time to match those of the organization for which one works, perhaps related to the amount of time workers spend at their jobs.

Changing Organizational Culture to Improve Entrepreneurship

A number of researchers have established the relationship between organizational culture and performance (Rousseau, 1990; Kotter and Heskett, 1992; Marcoulides and Heck, 1993; Ogbonna and Harris, 2000; Ehtesham, Muhammad, and Muhammad, 2011; and Ahmad, 2012). Still other researchers have found a relationship between organizational culture and entrepreneurship (Cherchem, 2017; Abdullah, Musa, and Azis, 2017; Engelen, Flatten, Thalmann, and Brettel, 2014) as well as profitability (Martins and Lopes, 2016). Hofstede (1991) states that workplace behavior is a continuation of behavior learned earlier in life. Thus, cultural values strongly affect all who are involved in organizations. While those values are somewhat invisible, they are likely important considerations in any attempt to improve entrepreneurial performance and profitability.

The importance of organizational culture to the development of entrepreneurship is best understood from the stories of failed international mergers. Research indicates that as few as 30% of international mergers and acquisitions create shareholder value (Brahy, 2006). The vast majority of them fail to bring value. One of the greatest reasons for the failure to produce shareholder value is that corporations are blind to see the impact that national and organizational culture differences have on their ability to be successful. If entrepreneurs do not establish a strategy to manage the influences of national and organizational culture in their enterprises, they will likely follow in the footsteps of failed international mergers. By understanding a country's cultural dimensions and its own corporate culture, entrepreneurs can make more effective and successful business decisions. Research has shown that considering national culture in the process of staffing results in more beneficial person-organization matches compared to staffing without a consideration of culture (Kristof-Brown, Zimmerman, and Johnson, 2005). It has also shown that properly managing national culture vis-à-vis one's organizational culture has been positively related to firm success (Li, Lam, Qian, 2001) and profitability in European companies (Martins and Lopes, 2016). Indeed, companies with higher profitability come from cultures having lower power distance, lower uncertainty avoidance, and higher indulgence.

If employees find themselves working for an organization with a culture that is incompatible with their own values, there is a problem called "fit." This problem can affect any employee in any business. For an entrepreneurial venture to be successful there must be an appropriate person-organization fit, which is defined as the degree to which an individual's values and personality match an organization's culture. When employees sense there is a good fit, they are more likely to help their coworkers and "go the extra mile" for the benefit of the company. For the success of entrepreneurial ventures, this means that extra care must be taken to attract, hire, and retain individuals that have a good person-organizational fit.

RECOMMENDATIONS FOR ORGANIZATIONAL CULTURE

Several of Poland's cultural dimensions appear to be inhibiting the development of high impact entrepreneurship. The country's scores on power distance, individualism, uncertainty avoidance, and indulgence seem to be focused in a direction inconsistent with those of countries having higher GEDI scores and lower ranks. How organizational culture can be structured to better align with the country's national culture so as to foster high-impact entrepreneurship will be outlined in the following section.

In the case of Poland, entrepreneurs should develop organizational cultures that begin with an understanding of their national culture and culminate in designs that foster high impact entrepreneurship. Two of Poland's cultural dimensions (masculinity-femininity and long-term orientation) are focused in the direction of the top 10 countries on the GEDI. As such, they require no intervention from the standpoint of organizational culture. The remaining four dimensions of Poland's national culture (power distance, individualism, uncertainty avoidance, and indulgence-restraint) are focused counter to the direction of the top 10 GEDI countries. Recommendations are outlined to address those four specific cultural dimensions.

Power Distance

To offset the effect of a high power distance culture in Poland, entrepreneurs should take steps to:

a. Develop organizational structures that are more decentralized. This would facilitate communication and help establish a more egalitarian climate.
b. Design a compensation structure that has smaller wage differentials. This would foster a participative atmosphere and equalize the distance in wage differences.
c. Create a job structure in which manual and clerical workers are in equal job families. This would convey an impression of comparable worth to members of the organization.
d. Encourage subordinates to share their opinions on aspects of the business. Entrepreneurs should consult with their employees and solicit their input when major decisions are necessary.
e. Foster a democratic work environment where workers can participate and partially share in governance of the enterprise.

Individualism

To offset the effect of a mid-range score for individualism in Poland, entrepreneurs should take steps to:

a. Foster an attitude where employees are expected to defend their own interests and ideas. This will create an atmosphere of healthy competition that serves to foster innovation.
b. Implement policies and procedures that allow individual initiative. In so doing, employees will not feel threatened if they develop new and different ideas. They will feel empowered as they share their creative thoughts for the benefit of the enterprise. When innovations result from those ideas, they will experience the joy of accomplishment.
c. Establish a second level of communication. This might include paying deserved compliments, approaching individuals personally to clarify information, and using friendly follow-ups with people to supplement official pronouncements. These actions would complement the formal communication in the organization and give employees the impression that they are individually important.
d. Entrepreneurs and their managers should work hard to be up to date and endorse modern management ideas.
e. Promote people within the organization based on market value with a long-term perspective. Those promotions should come from both inside and outside the firm.

Uncertainty Avoidance

To offset the effect of a high uncertainty avoidance culture in Poland, entrepreneurs should take steps to:

a. Increase the enterprise's involvement in strategy by involving managers in the strategic planning process. This facilitates the understanding of how the firm is positioning itself as a response to opportunities and threats. It enables the parties – indeed the entire firm – to reduce the anxieties associated with market and economic uncertainties.
b. Use a more interpersonal, rather than a bureaucratic, style in managing workplace issues. Entrepreneurs should show understanding and flexibility in the absence of highly structured rules and regulations that Poles seek in order to deal with change and ambiguity.
c. Develop a workplace that encourages and rewards risk-taking, even if individuals make unintentional mistakes from which the enterprise can learn. Risk taking that results in innovation should be praised and rewarded both intrinsically and extrinsically.
d. Cultivate a tolerance for variability in thinking and problem solving – but not in product specifications or service delivery. Using different approaches to solve workplace issues generally results in superior and more satisfying decision making.
e. Minimize the number of written rules and encourage workers to develop cohesive citizenship behaviors for the benefit of the organization.

Indulgence

To offset the effect of a restrained culture in Poland, entrepreneurs should take steps to:

a. Hire employees and develop partnerships with individuals having more extroverted personalities. These individuals are usually more socially-oriented and have well-developed networks of friends that can benefit the enterprise.
b. Develop more enlightened views of gender roles. This harvests the intellectual capital sometimes minimized or excluded when entrepreneurs/managers build glass walls or ceilings along the lines of gender.
c. Foster indulgence in thought to stimulate creativity and innovation. Today's entrepreneurs should understand the things that satisfy peoples' need to enjoy life and have fun. Catering to those needs typically results in high-impact entrepreneurship.

CONCLUSION

This paper aimed to shed some light on the cultural values of Poland. Using the data collected by Geert Hofstede, it was found that Poles were high in power distance, moderate on individualism, high on Masculinity and very high on uncertainty avoidance. They were low on long-term orientation and very low on Indulgence. The mix on these cultural dimensions is interesting and provides a likely interpretation for Poland's positioning on the GEDI. While the country has improved its entrepreneurial orientation over the last year, its rank is presently at 30 among the 137 nations represented in the Index. Its score is 50.4% compared to a score of 84% for the USA – a country ranked #1 on the GEDI. The paper connects the idea of cultural values with global entrepreneurial position and argues that the power of organizational culture can be harnessed to create high-impact entrepreneurship in Poland. Focused recommendations on how entrepreneurs can design the culture of their enterprises are highlighted. Adopting the human resource and business practices that these recommendations entail can potentially result in increased innovation, enhanced creativity, improved profitability, increased employment, and more satisfied workers. As such, a cultural approach to enhancing Poland's level and quality of entrepreneurship seems to be an economic and financial imperative.

LIMITATIONS

The findings and recommendations highlighted in this paper are based on research having some possible limitations. First, the data collected by Hofstede to generate the cultural dimensions are relatively old. Even with the replication studies that have been conducted, the data may not capture recent changes in the political or workplace environment. They may not capture employment-related changes such as the current emphasis on cooperation, empowerment, and knowledge sharing. Second, the Hofstede data were collected from a single organization – IBM. In developing his cultural dimension scores Hofstede made a questionable assumption that each nation consists of a uniform national culture and that data from a segment of IBM employees is representative of that supposed national uniformity. Notwithstanding these limitations, it is appropriate to point out that national cultural differences have remained fairly stable over time (Beugelsdijk, Maseland, and van Hoorn, 2015). As such, the conclusions in this paper rest on solid ground.

Beyond a discussion of national and organizational culture, this paper could have considered political, economic, and business factors to explain how high impact entrepreneurship might be advanced in Poland. Future research should explore those factors as potential explanatory variables.

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Something New Under the Sun? A Case Study of Modern Italian Barter Systems

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Modern technology can eliminate the limitations traditionally attributed to barter. This case study examines the operation of modern Italian barter systems and the motivations of companies to join such systems. Data is collected through website content analysis, interviews with key members of the barter community and a quantitative survey of firms currently using barter networks. In this case study we triangulate the data to debunk the myth that barter is only useful in times of economic crisis and show that barter can represent a strategic answer to SMEs growth and dexterity, allowing increase sales and access to new markets.

INTRODUCTION

Before the modern day introduction of money, most transactions employed a simple exchange process based on a double coincidence of wants (e.g. "I will swap my goat for your wheat"). The invention of money allowed for asynchronous trading with multiple players, which allowed more complex trading, reduced transaction costs and created the present day banking industry. The banking industry has a complex role: whilst it facilitates trade through loans and other financial structures, for some companies, particularly SMES current banking rules can create boundaries around trade. Lack of liquidity may prevent companies trading even when they have stock in the warehouse, or excess capacity for service companies. However, whilst money has many advantages i.e. it allows for non synchronous "wants", it relies on liquidity, which for small and medium enterprises can be a problem, specifically in times of economic crisis (Carbó-Valverde, Rodríguez-Fernández and Udell, 2016).

The modern day banking system on the one hand encourages lending and trade, but on the other hand, in times of global financial crisis, can exacerbate financial problems and can lead to small companies lacking the required credit to continue trading. The results in a paradox of monetary supply in that having access to a ready supply of money would resolve the effective-demand problem, yet the source of this problem is actually the constraint of a cash-in-advance problem imposed by the models themselves (Hellwig, 1993). Brunner and Meltzer (1971) note that monetary theory has failed to resolve the problem of the use of money and argue: "*any asset is just as usable as any other for executing transactions and discharging obligations*" (p804).

The dichotomy money vs. barter can be overcome by analysing the various functions of money and asking which of them can be successfully replaced by information technology. Within economic theory, the essentiality of money have been questioned and even deemed as *"an embarrassment to economic theory"* (Banjeree and Muskin, 1996, p. 995). Nevertheless, money serves a number of functions including resolving trading frictions, being an exchange technology, facilitating search economy evaluation, acting as a self-enforcing controller, reducing transaction cost, enabling anonymity, enhancing commitment, optimizing market memory and information economy. Most of these functions could be effectively performed by modern technology therefore eliminating the inefficiencies traditionally attributed to barter.

Using alternative systems is a common occurrence in times of financial crisis, and historically, barter trade tends to increase in diametric opposition to the economic cycle (IRTA, 2009). However, outside of small closed communities, barter suffers from the problem of requiring a double coincidence of wants: i.e. a direct trade of one item for another and is therefore considered inefficient (Oliver and Mpinganjira, 2011). Fischer (1975) describes the traditional explanation of the use of money as a way to solve the double coincidence of wants, as "picturesque" and argues that monetary theory provides "no reason why one good rather than another should be used to balance trade" even if their needs don't double coincide.

Modern barter systems offer a solution to this: modern IT based barter systems remove the need for the double coincidence of wants: allowing asynchronous and multiple player trades. In addition, these modern barter systems could offer a non- monetary based but regulated trade platform. However, to date, there has been relatively little interest in this sort of trading from Governments or other community groups. The recent global financial crisis has increased attention towards non-monetary business practices that have the potential to alleviate the effects of liquidity and credit constraints.

This study focuses on Internet based barter systems that are currently operating in Northern Italy. Specifically, this case study examines:

1. How these electronic barter systems work
2. The motivations of companies to be part of a system
3. The experiences of companies in these systems.
4. The implications of barter systems for policy makers.

In so doing, this case study also examines broader issues: First, whether barter models are indeed contingent on low economic cycles, and are a response that would generate no advantages if liquidity, credit and customer demand were easily available. Second, as firms tend to be reluctant to invest in any form of innovation (Archibugi, Frenz and Filipetti, 2013), would business models that could pair barter and money require a level of ambidexterity that is difficult for companies during times of financial crisis? Finally, this study explores whether these modern barter systems are limited by other factors than finance: is trust a potential limiting factor in the possible expansion of such barter systems?

This study presents a unique case study (Yin, 2011), as Northern Italy has a number of electronic barter systems operating. In so doing, it allows an in-depth study of a bounded system or phenomena (Flyvberg, 2006), which allows inferences to be made. To ensure rigour and present this in-depth understanding, a number of sources of data are used (Creswell, 2013) including content analysis from the barter systems websites, qualitative data from interviews with key decision makers, and a survey of users of the barter systems.

The remainder of this paper is structured as follows: a brief review of previous literature on barter focusing on motivations and opportunities for barter systems to evolve is presented. Next, the data collected within Northern Italy from three independent data collection methods is presented together with an analysis and triangulation of this. Finally, the paper concludes with a discussion of the implications for future trade and monetary systems. Our study revealed that Italian barter models are predominantly growth-oriented, rather than representing a survival strategy. Indeed electronic barter systems are not only well known but also desirable for many enterprises and Trading Associations within Italy, a country where, historically, SMEs are inclined to develop networking strategies.

BACKGROUND

Although a lack of regulations make it hard to determine, the global volume of barter and countertrade has been estimated to account for around 25-30% of world trade (Okoroafo, 1988) and is increasing global (Oliver and Mpinganjira, 2011). Whilst the current monetary system is subject to extensive National and International regulations, barter systems generally lack regulation. This lack of regulation both hinders and supports barter systems.

Indeed, barter has often been assimilated into hidden economies, which leads to several problems: First, the lack of regulation for non-monetary exchanges, and especially for new forms of electronic barter, makes it difficult for practitioners to correctly report them. Second, if barter exchanges are recorded based on the current monetary exchange values, it can result in the loss of important data because, in general, hidden economies tend to distort economic data and are often under-reported (Bhattacharyya, 1999). This then fosters a vicious circle for which barter is not accounted for, as a consequence it is labelled as a hidden economy, which in turns feeds the prejudice that barter is a narrow economy, strictly linked to tax evasion. Indeed, "*the lack of statistics can be attributed in part to the unwillingness of governments to acknowledge these transactions officially*" (Howse, 2010, p. 291).

Some economists have also contributed to the barter taboo, for example by stating that barter "*has never been a quantitatively important or dominant model*" and that "*moneyless transactions are 'minor, petty, infrequent and never structuring important sectors of economy'* (Dalton, 1982, p. 185). For example, a study in the UK noted that barter exchanges are commonly considered as a second choice that firms reluctantly explore only if adverse circumstances exist (Shipley and Neale, 1988). This hinders barter trade because as Howse (2010) noticed, there is a little awareness of the bartering phenomenon from governments, and regulators typically demonstrate "barter prejudice" that looks suspiciously at this type of transactions, often assuming tax evasion intentions. Indeed, in the US, since 1982, the Tax Equity and Fiscal Responsibility Act requires corporations to report barter transactions as their equivalent monetary value which may distort data on the true volumes of barter exchanges (Marvasti and Smyth, 1998). Within this US lens, barter is seen as "countertrade" and considered to be both inefficient and even a "*trade distorting phenomenon*" (Czinkota and Talbot, 1986).

In contrast to the US, abundant data about barter is available in Russia where the government itself participates to the barter economy. Because of this Government activity, there are also clear regulations in order to reduce the economic dangers of an excessive use of barter. However, the amount of barter undertaken in Russia and other former Soviet countries is massive: between 1995 and 1998 "*almost 50% of the spending by subnational governments was in noncash form*" (Pinto, Drebentsov and Morozov, 2000, p.1) with non-cash payments for taxes being the norm. In Russia in 1998, barter represented as much as 60% of the national GDP in 1998 (Marin, Gorochowskij and Kaufmann, 2000). Indeed, even when forecasts indicated that non-monetary exchange would be replaced by monetary exchange over time, this has not been the case (Tsukhlo, 2000). This has been attributed to economic decline, liquidity issues, but has allowed firms to settle debts without the use of money. In addition, there are other non-financial benefits to barter in the form of guaranteed sales at the end of a production cycle, which help the planning process (Ould-Ahmed, 2003).

Both old and new research points to the direct link between barter growth and the economic cycle, with Stodder (1998) suggesting "*an overall evidence of corporate barter's counter-cyclical nature*" (p.9). Empirical studies from the US and Russia provide evidence that barter exchange flourishes under economic constraints affecting business inventories, price inflations and liquidity. In the USA, the rise in barter has been associated with inflationary trends and fiscal policies, slow business growth and inflation (Marvasti and Smyth, 2011), and as a response to 'economic crisis, financial crisis among clients, cost-cutting initiatives and cashless promotion campaigns' (Kaikati and Kaikati, 2013, p. 49).

The fact that money is a core tenet of trading tradition makes it an ideal target for innovation in a context of "business model warfare" as described by Morris: " *a business model is a holistic description of a business and its relationship with the broader market, thinking about the business model may offer greater insights and better innovation targeting*" (Morris, 2013, p. 8). Barter, as an innovative response to the current monetary system may not initially seem to be an innovation, since barter is often described as a precursor of money (Van Yoder, 2011; Williams, Tondkar and Coffman, (1984). However, there are several advantages to barter over money as a transaction: these included lower transaction costs (Ostroy and Starr, 1974), as well as aiding the planning process. Ironically, and perhaps due to the poor reputation of barter systems, there are relatively few innovations in terms of replacing money.

Motivations for Barter

Whilst most studies suggest that companies choose barter only in times of economic crisis, Kaikati and Kaikati (2013) suggest there are actually three motives for bartering: survival oriented, growth oriented, and strategic or structural:

Survival oriented barter is focused on meeting short-term financial or legal objectives. The drivers tend to be environmental constraints such as economic crises, pressing regulations or financial adversity (Kaikati and Kaikati, 2013). In many cases, firms use barter to resolve cases of debt insolvency, or to reach a range of customers that would be otherwise unable to make hard-cash payments. Once the financial pressures are relaxed, firms motivated by survival barter trades tend to return to money based trading, relegating barter to a one off exceptional event. Previous research suggested that the impact of non-monetary transactions in restructuring is negatively linked to survival oriented firms, whereas firms that are not in distress, and therefore not reliant on a pre-existing supply chain, are not negatively effected by barter correlated restructuring (Commander, Dolinskaya and Mumssen, 2002).

Growth-oriented barters may initially develop as a survival mechanism but then develop into recurring transactions, as they become part of the company's core business. In these cases, the benefits of cashless exchanges may prompt managers to persist and incorporate this type of deals in order to promote "*sustainable growth, irrespective of the broader economic climate*" (Kaikati and Kaikati, 2013, p.55). Typical cases are the exchange of dated inventories for advertising or promotional campaigns. As inventories repeatedly become obsolete, and advertising is a constant need, firms may find convenient to continue using non-monetary exchanges, even after their financial situation has improved. In addition, the trading relationships established with barter partners may later provide in themselves sufficient incentive to continue business with these partners and lead to "*an inimitable, critical source of competitive advantage"* (Jap, 1999, p. 472).

Structural deals. This rare form of barter is driven by strategic goals and aims at achieving a competitive position in the long term. Accurate planning is involved, paired with the choice and development of technological means (Kaikati and Kaikati, 2013, p. 59). This type of exchange may require investment, and the long-term commitment of all parties involved. This type of deal often becomes part of a comprehensive business model and affects internal organizational structure at various levels, in particular by "*designing interfirm routines that facilitate information-sharing and increase socio-technical interactions*" (Dyer and Singh, 1998, p. 665).

In summary, barter has been historically associated with financial crises, and is often unreported, partially due to lack of legislation and regulation. In turn, this situation has reinforced the idea that barter is a form of "countertrade", to be largely ignored by economists, and it's importance in the world economy being poorly understood.

The Role of Technology

As far back as 1970, Veendorp observed, *"if all traders were informed about the excess demands of their fellow trader, indirect bartering would seem to be a reliable way for clearing commodity exchanges"* (p1). Recent developments in technology have resulted in these possibilities for monetary substitutes (Li, 2006) and may even lead to renewed competition between alternative media of exchange (Marvasti and Smyth, 1998).

Monetary theories often refer to money as an "exchange technology" in itself (Álvarez and Bignon, 2013), which facilitates matching, search, memory, networking and commitment (Stenkula, 2003). Wallace (2001) argues, "With perfect monitoring, tangible money is not needed". In fact, this link between technological advance and greater barter exchange has already been seen in a correlation between the revival of barter commerce and ICT adoption (Marvasti and Smyth, 2011). Essentially the internet allows barter exchanges systems that can reduce some of the inefficiencies of barter transactions”, such as the double coincidence of wants, and the meeting of barter traders (Menger in Latzer and Schmitz, 2002). Internet barter systems and also reduce the operating costs (Marvasti and Smyth, 1998). With increased internet access and speed, online barter systems have developed which remove the requirement for a double coincidence of wants” and allow multilateral asynchronous exchanges.

A basic electronic barter network employs technology to enable search, matching, enforcement, and analysis of transactions and credit worthiness assessments. A more sophisticated and sufficiently large barter network could potentially use computational power to also integrate instruments typical of current banking systems. Technology is still evolving although modeling powered by software and methodologies for Distributed Agents Systems is now mainstream in e-commerce research (Fortino and Russo, 2012) and capable of implementing multilateral exchanges typical of a barter network within models of monetary economies and perform a simulation with artificially intelligent agents learning to optimize multilateral matches.

An alternative experimental web-based barter system, developed by Information Science researchers (Bravetti et al., 2007), has demonstrated the possibility of reaching market equilibrium. Moreover, it results in “*the market becoming an agent that acts as representative of the users that traded inside it*” (p. 242).

In summary, development of computer and Internet technologies could lead to changes in the way money performs it “technological” functions. Li (2006) observed how ‘recent trends in technology make it much easier to issue various substitutes for currency, which suggests that in the near future we may be faced with renewed competition between alternative media of exchange”.

Organizational Capabilities and Structure

The adoption of barter concurrently with monetary transaction could present a significant challenge to companies because current systems would need to be adapted to work with two different trading methods. This could then lead to dysfunction and a subsequent reduction in the quality of existing trading relationships. Altering the supply chain can be particularly delicate considering that relationships with incumbent suppliers are linked to a innovation performance and financial results, driven largely by trust and dependence” (Rajagopal, 2008).

Alternatively, as firms who work together may also have similar innovative capacities, firms open to a new trading environment could work together to harvest the mutual and beneficial competitive advantages through such a system (Pittaway et al., 2004). Barter offers some potential strategic advantages: it allows for hidden price discrimination, can be a powerful strategy to increase margins, as well as a potential tactic to hide marginal costs (Magenheim and Murrell, 1988), because the terms of trade are effectively hidden within a barter system. An electronic marketplace functioning as a bartering network could replace money in its functions of mediation, while maintaining money as an efficient unit of measure for comparing values. New technological developments remove the old problems of the double coincidence of wants and allow barter to occur with multiple agents and asynchronously. However, using two alternate systems has costs in terms of training, systems, processes and potentially stock levels.

CASE STUDY: ITALIAN BARTER SYSTEMS

The choice of focusing the research in a specific location, namely Northern Italy, is justified by the value of contextualising organisational research. This approach is particularly significant in contemporary organisational research because this domain “is becoming more international, giving rise to challenges in transporting models from one society to another” (Russeau and Fried, 2001). As suggested by Johns (2006), context has the power to “shape the very meaning underlying organisational behavior and attitudes. Moreover, paying attention to industrial macrocultures enables to identify casual explanations at a higher level of analysis, avoiding the pitfalls of "explanatory reductionism" (Hackman 2003).

The next section of this paper describes the case study of barter in Central and Northern Italy. Focusing on a single regional entity allows achieving higher granularity in understanding the social, and economic humus in which a business model evolves. Italy forms a unique case study (Eisenhardt, 1989; Yin, 2011); as well as country that plays a significant role in the worldwide economy. Italy is part of the large free trade area (EEA), yet it retains little power over its own economy in terms of exchange rates as it lies within the Eurozone. In addition, Italy is part of the G-8, which accounts for half of the global nominal GDP.

Although Italy lies within the European Union trading region, Italian is rarely spoken outside of Italy, and the geography and regional differences in Italy provide a unique environment for the creation of micro regional clusters. At the time of this study, Italy was facing severe financial pressure as a result of the GFC, with banks facing liquidity crises, credit problems and confidence issues (Coleman, 2013). The deep loss of confidence in banks and monetary institutions, paired with the overall credit crisis, provided a unique environment for the development of new business model innovations. In addition, at a regional level, significant barter activity evolved based on new customized ICT solutions which allowed them to exploit "*new attractive ways to enhance their contacts with other firms inside as well as outside their established relationship networks*" (Chiarvesio, Di Maria and Micelli, 2004, p.1520). Italy is of particular interest when studying networked business models because collaborative systems are the fibre of its economy since the 1700s when, reacting to the crisis of mass production, Italian enterprises developed the innovative approach of local "industrial districts". Italian industrial districts represent an example of cooperative behavior, featuring a high degree of flexibility, exploration of shared values and mutual trust which Mistri (2003) described through an ecological paradigm in which there is equilibrium between competition and cooperation that determined an "evolutionary stable strategy".

Italian barter was established around 2001, and has since gained momentum. It has now been adopted, at least to some extent, by hundreds or even thousands of small and medium enterprises and this has resulted in a range of differing barter networks, ranging from nationwide networks to regional Local Exchange Trade Systems. An example of such a system is the Barter system in Sardinia, which was established in 2010, and enrolled 1000 local firms within two years (Melis, Dettori and Giudici, 2013).

Methodology

A mixed methods data collection method was chosen. Three main primary data sources were identified in order to address the research questions:

A. Barter operator websites (companies that own, develop and manage barter networks).
B. Barter networks members, i.e. firms that practice barter in affiliation with networks in order to carry out multilateral non-monetary exchanges.
C. Additional stakeholders and subject matter experts, such as Trading Associations (powerful player in the Italian business and normative context), political, legal and accounting experts. Their input can provide a balanced overview of norms as well as a perspective on how barter should or does integrate with the Italian current economic texture, mentality and institutions.

The first stage involved a content analysis of websites. The text content of the websites has been extracted and transcribed. Recurring keywords have been ranked according to both recurrence and visibility, with the aid of an algorithm written in Java. In the second order analysis recurring themes and patterns common to all website allowed to identify the shared meaning of e-barter in the Italian linguistic and business context. Unique messages were investigated to contextualize them according to the preferred target of websites (company size, sector, financial health) and to the business objective of the barter network (boost sales, increase customer base, cashflow management).

Second, in-depth qualitative data was collected through nine face-to-face semi-structured interviews with the following participants:

- 2 Owners/funders and 2 Managing Directors of barter networks.
- 1 Director and 1 President of the most representative Italian trading associations of SMEs, namely C.N.A. and Confartigianato.
- 1 Owner of a law firm specialised in enterprise networks.
- 1 Barter specialist engaged as a consultant by a trading association
- 1 former Vice-President of a trading association and entrepreneur who is engaged in local politics and specialised in the interconnection between financial, political and business entities.

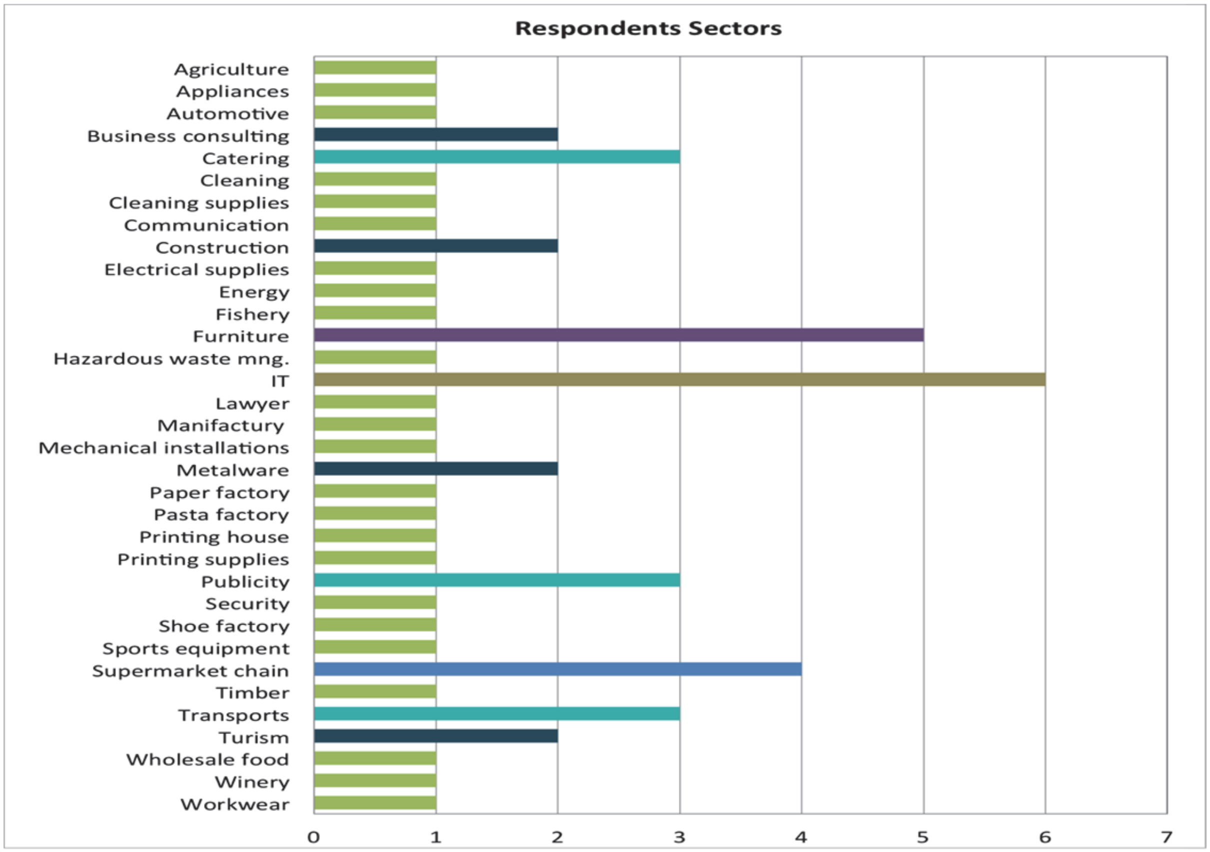
Face-to-face meetings were considered as the best way to recreate an environment for collecting qualitative data. A basic structure for the interviews ensured covering essential questions, whilst maintaining a free conversational framework permitted exploring new avenues, asking for clarifications and challenging the participants. The following topics were addressed: how the systems run, what sort of companies use and benefit from the system, and how entrepreneurial cultures influence the perception and adoption of the new barter systems. A content analysis was applied to the transcriptions of the interviews. Additionally, a narrative analysis approach was employed to identify patterns regarding the motivations to barter and to contrast expectation vs. reality concerning perceived obstacles to achieve the anticipated benefits of e-barter.

Finally, to gather data from companies actively engaged in barter systems, an online survey was constructed. The survey was distributed to companies within three different barter systems, whose directors had been previously interviewed and had agreed for data to be collected from their members. The survey link was distributed randomly to all members of these three systems. IP addresses were collected to monitor potential duplications. Fifty-six fully completed surveys were received and analysed. There was an initial reluctance to participate in this study, but once the respondents were assured that this was an academic study (i.e. not tied to another commercial network), the response rate increased. Surveys contained 12 main questions, all allowing open answers and covering the same areas as the interviews. Additionally, participants were asked to express degrees of agreement with 9 statements. In order to compare data with existing literature, the survey included questions to evaluate the 7 prejudices and benefits listed suggested by Shipley and Neale (1988). Data was analysed via line-by-line, open and theoretical coding followed by categorisation. Additionally, a thematic analysis was applied establishing conceptual relationships with the results of the interviews: this method allowed to further understand the affinities between the operators of the e-networks and their affiliates pertaining to motives, expectations and business models.

Respondents

There was a wide variety of different industry sectors represented in this section of the study, include manufacturing, wholesale, professional services and consulting as shown in Figure 1.

FIGURE 1
RANGE OF INDUSTRY SECTORS REPRESENTED IN 3 ITALIAN BARTER NETWORKS



Italian Barter Systems: Introduction

The lack of an agreed and fitting definition for non-monetary multilateral exchanges led to a variety of ways that Italian barter networks present their activities. There is no suitable Italian word to describe the activities of barter networks, so the English "barter" is more often used than the Italian "baratto". "Baratto" is associated with bilateral exchanges and holds a negative connotation of ancient commercial practice, whilst multilateral barter is presented as an innovative model. This is then most often accompanied by discursive explanations that are best summarised as "*multilateral exchange of goods and services in compensation between firms*". Of the 6 websites, only two use the Italian word, proposing a differentiation between "baratto" as bilateral and "barter" as multilateral. One website does not use either word. Whilst some companies chose to address the public by presenting multilateral barter as a complete different model than monetary exchanges, others prefer to explain it through their similarities, even using "financial language" such as "complementary currency to increase revenues and improve cash flows".

Interestingly, the predominant focus of all of the six websites positions barter as a logical response to the financial crisis or companies facing financial difficulties. Indeed, references to financial crisis appear explicitly in 4 of the 6 websites, and in 2 cases also in marketing tag-lines (such as "barter: and the crisis disappears"). The other 2 websites refer instead to barter providing a resolution to generic business problems.

The following benefits were listed within the 6 websites as follows:

- Gain visibility, new clients or access new markets (6/6)
- Increase sales (6/6)
- Improving liquidity (6/6)
- Access new distribution channels (5/6)
- Reduce financial exposure (5/6)
- Reduce unsold inventories and stocks (5/6)
- Optimise productivity (3/6)

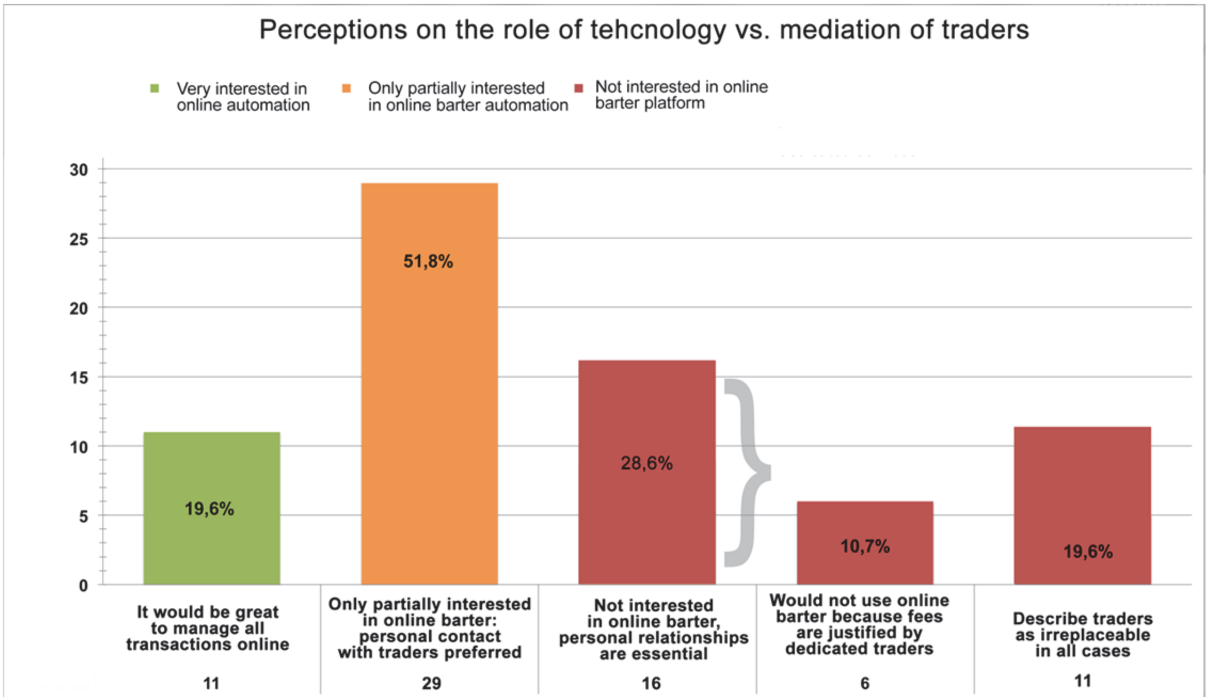
This terminology was reflected also in the interview data: All participants agreed that the Italian word “baratto” is reminiscent of bilateral exchanges, whilst “barter” (a lesser known foreign word) was more commonly used to describe multilateral asynchronous exchanges. Other terms used to represent the barter systems were: “purchasing office” and an “alternative credit network” as for some people, even the English term “barter” was felt to have negative connotations: Participant A felt that the prejudice against barter stems from misconceptions about money: the physical faculty of money is a strong, yet inaccurate, psychological construct, because it is rarely used. The real value of money, she argues, lies in its spending power” and therefore a barter network offers advantages in this regard.

Italian Barter Systems: Operations

Within the interview data, there were two different mechanisms operating in the current Barter systems. Web based barter was possible through online web platforms for some systems and Participant A placed strong importance on the quality of the web platform in order to allow users to identify opportunities and to transact online. Other barter network operators gave more importance to the active role of agents and traders in mediating transactions. Both participants B and C described SME entrepreneurs as either “too busy or too lazy” to change their sourcing methods and use Internet-based resources. They suggested that personal and even face-to-face relationships are too important in the Italian business mentality. In their networks, traders proactively visit affiliates, develop personal relationships, helping them to plan, analyse their purchasing lists and to push transactions through the network. Indeed, Participant B estimated that only 5% of firms transacting in the network did this autonomously without the assistance of a trader. For participants B and C the platform serves to create an online community, rather than automating transactions, and the network relies on personal relationships and agents.

Trading Association representatives agree that Italian enterprises are not strong in the adoption of Internet-based technologies, however they both ascribe this situation to the lack of simple, effective and reliable technologies designed for facilitating business operations. Indeed, a distrust of technology was apparent with Participant F describing the total ineffectiveness of business related Internet technology at large, which contributes to his firm’s diffidence towards it. The centrality of traders is confirmed by the comments harvested by the survey. 45 respondents described traders as “extremely important”: 29 of them consider them irreplaceable for certain barter negotiations whereas for 16 of them traders are “irreplaceable in all cases”. The language used refers in part to the importance of personal business relationships in general and in other cases specifically related to barter transactions. Traders seem to be preferred for delegating bartering activities. These views also match the survey respondent’s comments about the role of technology in barter.

FIGURE 2
THE IMPORTANCE OF TRADERS IN ITALIAN BARTER SYSTEMS



However, the view of the system operators was not mirrored as strongly in the survey, where company respondents strongly indicated that they would welcome a fully on-line platform, in line with previous findings about them giving higher importance to technology. 52% would welcome a more automated platform but without renouncing traders, whilst 28.6% would not be interested at all in technologically aided barter.

There are no specific regulations that cover barter in Italy. Participants D and F explained that barter is regulated by the Italian Civil Code, article 1552 regulating *"permuta"* (literally "swap"), which simply envisages "a contract whose object is the mutual transfer of ownership of property, or other rights from one party to another" (Anelli, 2008). Firms cannot exchange what they don't possess; hence barter required the exchange of virtual credits, managed by the network. From a fiscal standpoint, barter is also regulated by the more complex Decree of the President of the Republic Number 633/72 (Paolo, 2010), which among other details regulates the invoices procedures, but it is not specific to barter. VAT must be paid also for non-monetary transactions, according to the equivalent monetary value. The situation becomes more complex when the exchange includes both monetary and non-monetary compensations, because it is not straightforward whether the exchange is to be considered a "*vendita*" ("sale"), a *"permuta"* ("swap") or a combination of the two. Different theories apply to these cases, also according to rulings of the Italian Courts (Affanito and Tagliaferri, 2010).

Interview participants agree that these limited regulations constitute an advantage to barter, within a business context vexed by over-regulations. Only one Participant (D) believed that barter would benefit from more regulation in the short term: the other participants suggested that barter trade would be better served with some sort of certification or professionalization.

Invoicing or credit creation was relatively complex and cumbersome: most networks require firms to directly invoice to each other through an "invoice in compensation" system: firm 1 invoices firm 2 directly for providing a good or service in "barter credits, which firm 2 then requests the network operator to transfer to firm 1. In some cases, invoicing was more centralised: firm 1 invoices the network for providing a good in exchange of credits, and the network invoices firm 2 in the same way. Participant C felt that this process represents an accounting simplification for companies, because they can invoice just the network for most movements, rather than keeping track of multiple VAT IDs for each trading partner. However, despite this appearing a much simpler system for the small companies, Participant A consider this method inefficient and to decouple the network from its barter nature, becoming de facto a virtual warehouse: in her view the barter network should facilitate stronger partnerships and improved relationships between companies.

All networks ask an upfront affiliation fee, in one case partially refundable if no transactions happened during the year. In addition to this, commissions are generally payable to each network in money for each transaction: whilst some networks demand them only for sales, others require them also for purchases. Some network set a fixed percentage; others calculate it on the basis of the company size; and others on the type of good, for which different rates might apply. Some networks, such as Network A, are open to negotiate their commission with individual companies, but the other networks all worked on a fixed commission basis. Some networks charge a commission fee in euros, and an additional % commission credited to "barter currency" credits: this strategy is designed to keep companies committed to the network and to increase the amount of goods and services available within the network.

Motivations for Joining a Barter Network

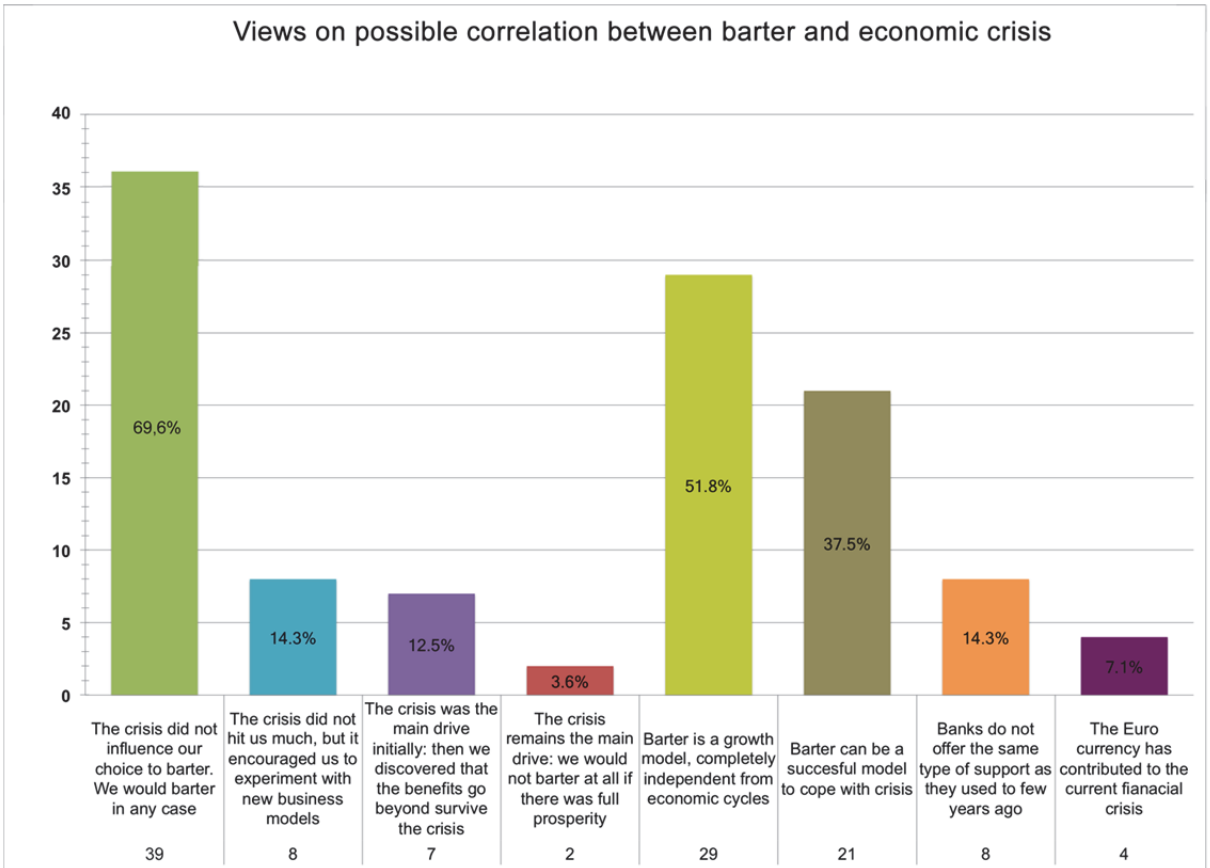
Despite the strong focus in the promotional material suggesting the main motivation to join a barter system to be financial crisis or liquidity, the entry criteria for joining a barter system appear to be strict. Indeed, membership pre-selection means that only successfully performing companies are actually allowed to join the networks. In fact, in the case of all the networks contacted in this research, it is not possible to become a member automatically through a web registration: prospective members are personally interviewed and need to provide documentation to certify their credit worthiness and their fiscal compliance in a process mirroring the one necessary to access credit from a bank.

Perhaps due to this pre-selection, the interviews and surveys provided quite a different picture to the website content. Reported company benefits related to solving liquidity issues appeared as secondary and very few respondents used the network to dispose of unsold stocks. Indeed, from the interviews it became apparent that companies facing crisis were not the segment that the barter networks wanted to recruit: the emphasis on barter as a solution to financial problems appears to be only a marketing tool, and only firms in good financial health are allowed to join and benefit from bartering. Participant A explained that the most operational firms in their networks are those in excellent financial standing and with good liquidity reserves to invest in growth: barter is being used facilitate business objectives with minimal investment. Participant A confirms that when speaking to the media, linking barter and crisis guarantees a space in the news, which grants visibility to the barter phenomenon, simultaneously acknowledging that firms in crisis are not actually welcome. According to Participant A, firms that are the most active in the network are those driven by opportunities to gain more visibility and increase their sales. The possibility to purchase without touching liquidity is considered as an incentive to experiment with an innovative model. In contrast, Participant D sees any correlation between crisis and barter to be dangerous, because it may foster the development of barter networks that are incapable of developing a structured and effective system: instead they would offer barter as an easy solution to structural cash flow issues, exploiting the crisis without being interested in constructing an economical and sustainable equilibrium within the network.

This apparent conflict between marketing "spin" and actual use of barter is reflected in the survey data (Figure 3) as well: 70% of respondents state that they did not join the barter system as a result of economic crisis, 99% of firms benefited from entering new markets and 94% experienced an increase in sales. Another 14% were not affected by the Global Financial crisis, yet they felt motivated by the economic crisis to experiment with alternative business models. Most of the respondents considered barter primarily as a growth-model. Only 16% admittedly engaged in barter to cope with the crisis, yet only 2 of these respondents would stop bartering if there was full prosperity: the others appeared to have discovered enough benefits to continue bartering in any business cycle. Interestingly, 7% of respondents related the crisis specifically to the Euro currency, which became a strong motivating force for barter, and

14% expressed contempt against the diminished support of banks. These subjects welcome non-monetary transactions as a way to actively display their hostility towards institutions that "betrayed them".

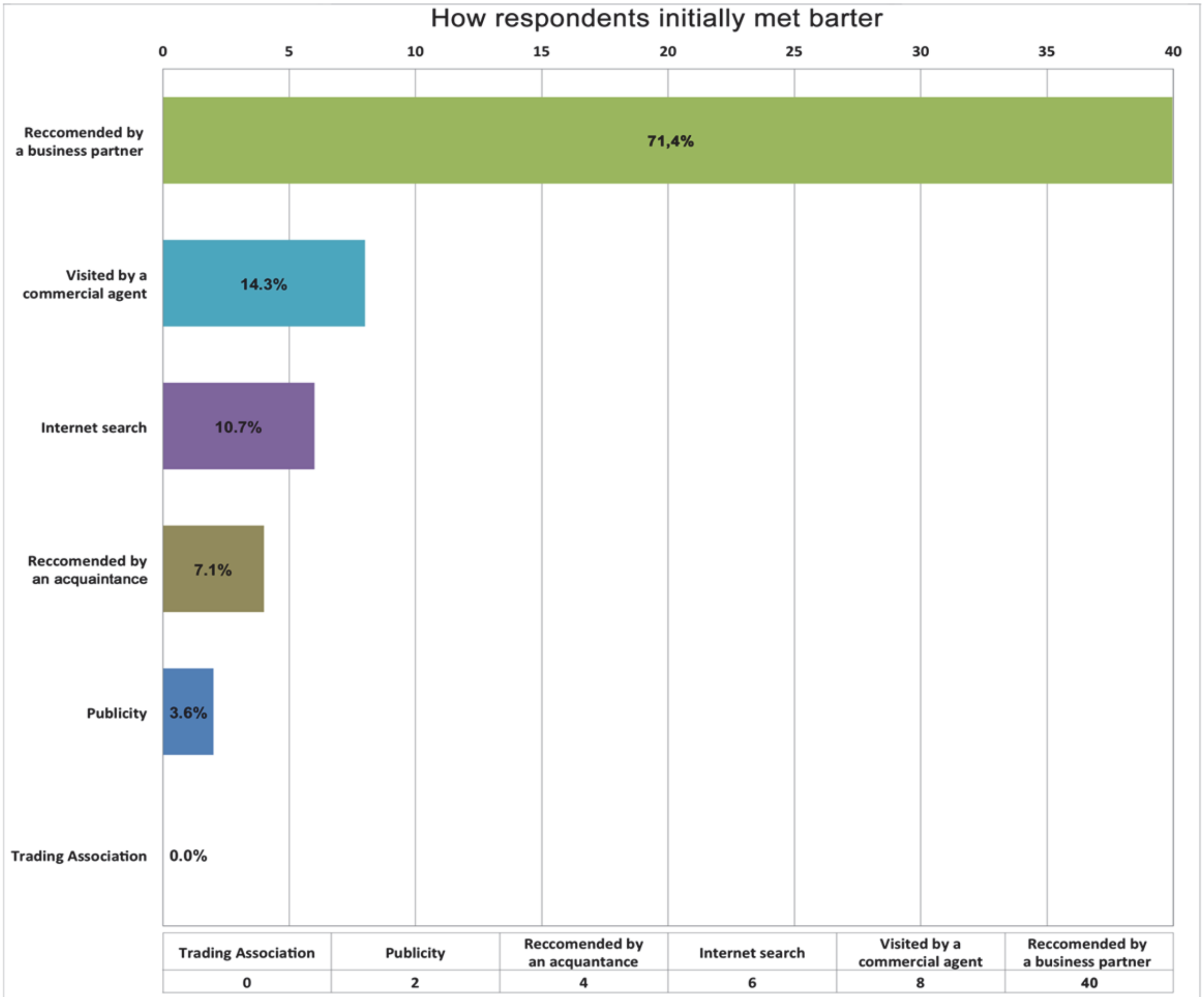
FIGURE 3
BARTER SYSTEM MEMBERSHIP AND ITS RELATIONSHIP TO ECONOMIC CRISIS



It is interesting to note the way in which companies join barter networks: the vast majority of companies were introduced to barter systems through current business partners as shown in Figure 4. The vast majority (71%) of respondents joined the network through the recommendation of a business partner: another 14% joined through a commercial agent, 11% through independent Internet searches, 7% through an acquaintance and less than 4% as a result of a marketing campaign.

Despite the general consensus about the relevance of Trading Associations, no respondent had been introduced to the network through these Trading Associations. This suggests a relatively closed and tight network of companies and is important for several reasons: the lack of institutional recommendations is an obvious gap and it is unclear whether this is due to the perception that barter is somehow "illegal" or "tax avoiding" or whether there are other issues, such as trust. Trust appears to play an important role in network participation since the majority of companies enter the network through the recommendation of existing business partnerships. Bizarrely, despite the highly personalised recommendations to join, very few companies appear to pass on this recommendation. Most respondents (82%) did not go on to propose barter to their suppliers, despite 64% of them having been introduced to barter by their own partners. Of the respondents that joined the network as a result of a referral from business partners, only a small number (7%) then recommended this system to their own suppliers.

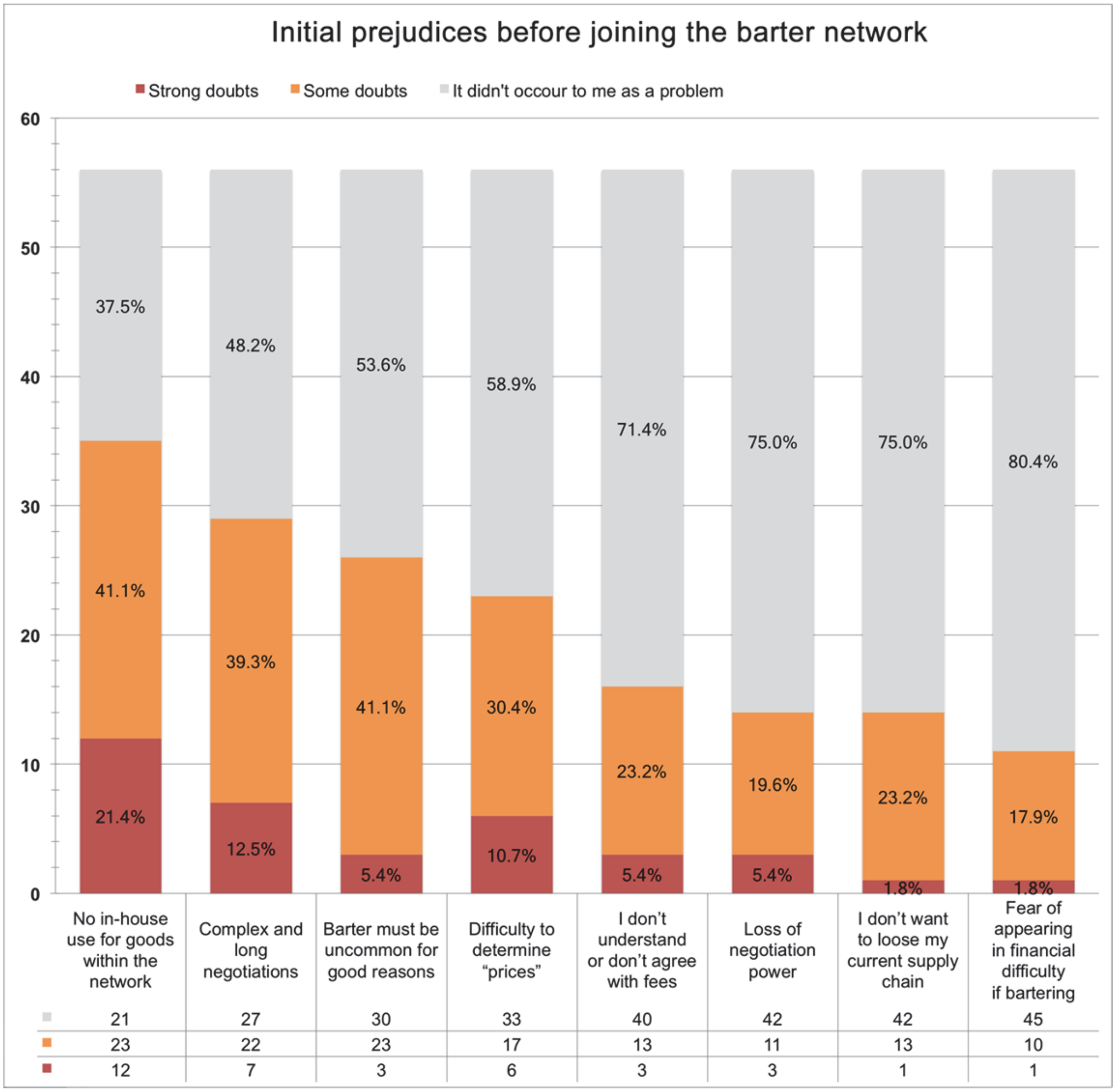
FIGURE 4
MECHANISMS FOR INTRODUCING COMPANIES TO BARTER NETWORKS



With regards to the initial prejudices against barter, this study found a similar trend to that identified by Shipley and Neale (1988), but with significantly less strong objections. This could be explained by the fact that in Italy, barter systems are still not very well known, therefore companies have not yet developed a set of strong prejudices.

The survey results confirms that barter befits Italian SMEs are capable to adopt alternative business models with little need for internal reorganisation, due to their size and informal internal structure. Only 7% needed significant reorganisation, whilst another 14% of companies made no organisational changes at all, and the majority (76%) made only small organisational changes. Respondents described the required reorganisations as twofold: logistic (as a consequence of changing their supply chain) and relational, referring to the introduction of interactions with external traders.

FIGURE 5
INITIAL PREJUDICES TOWARDS BARTER



Outcomes of Barter Networks

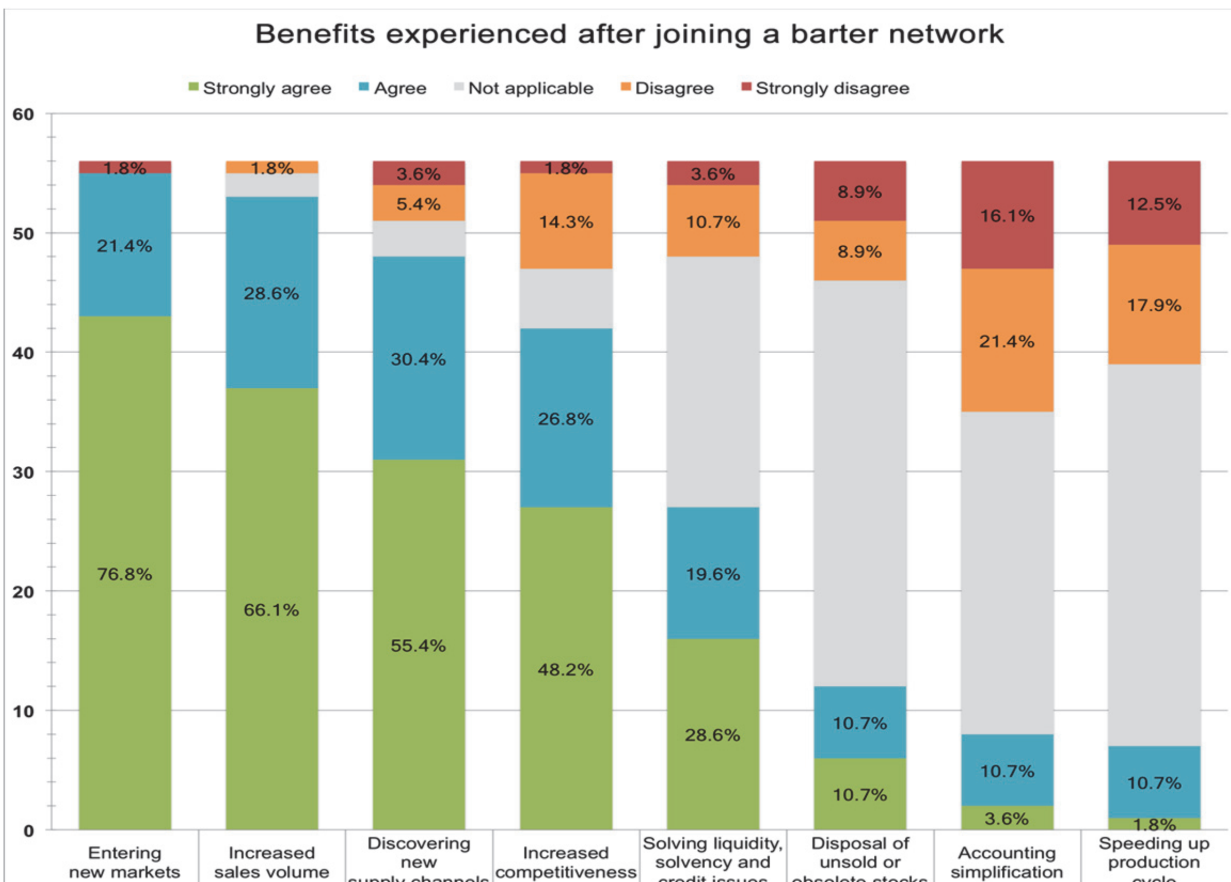
There were three main positive outcomes to barter systems: speed of growth, increased cash flow and the generation of new customers/sales. This clearly reflects the idea that a distinctive advantage of barter is found in the opportunity for the small business to establish a base of customers that might otherwise be unavailable (Williams, Tondkar and Coffman, 1984). Participant B identified two main drivers, the possibility to acquire goods and services immediately, even with little cash available, and secondly, the zero risk of solvency when selling.

Barter appears to act as an accelerator of business activities because purchasers don’t have to wait for liquidity and goods can be obtained earlier and put to good use by the firm. Both representatives of the Trading Associations support the notion of barter as productivity accelerator, and as a solution to liquidity and solvency problems. Supporting this, Participant C described barter networks as an “external purchasing department" that actively sources suppliers for companies, offering them the advantage of anticipating purchases without affecting liquidity.

Participant F highlighted how SMEs can be seriously affected by the difficulty of getting paid in a timely manner, a situation that could be alleviated by barter exchanges in which the network ensured direct availability of credits for each sale. Participant E supported this view, suggesting that the main driver for adopting barter is the possibility to "abandon negative debts in favour of productive debts". The power of barter networks is therefore their unique capability to transform purchases into an instant guarantee of future sales within the network, reducing the additional efforts of resource transformation when dealing with money. At the same time, he conveyed a high level of diffidence for barter networks that don't offer sufficient guarantees: with crises come a plethora of gimmicks and scams, therefore the current economic downturn requires an increase level of awareness that, in his view, it is bound to actually delay adoption of alternative business models, even if they could theoretically be beneficent.

Participant H pictured barter as an effective solution to the crisis as long as it would involve public works and fiscal system. He described how barter could be a powerful ally to SMEs that, despite being virtuous, are denied credit from banks. This relates to a change in the way Italian banks estimate the creditworthiness of their clients, looking at parameters that do not reflect their actual ability to repay loans.

FIGURE 6
POSITIVE OUTCOMES FROM BARTER SYSTEMS FOR SMALL COMPANIES



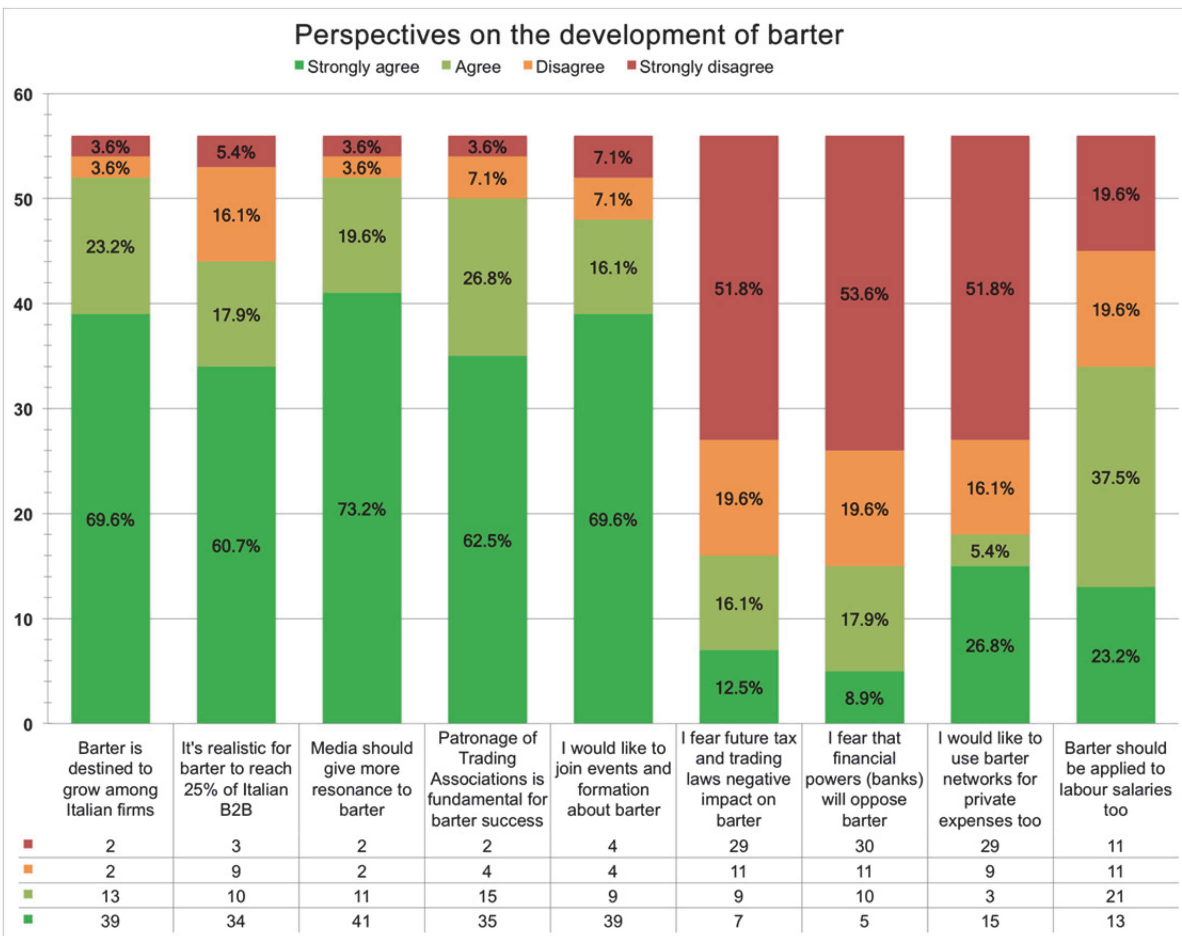
	Entering new markets	Increased sales volume	Discovering new supply channels	Increased competitiveness	Solving liquidity, solvency and credit issues	Disposal of unsold or obsolete stocks	Accounting simplification	Speeding up production cycle
Strongly disagree	1	0	2	1	2	5	9	7
Disagree	0	1	3	8	6	5	12	10
Not applicable	0	2	3	5	21	34	27	32
Agree	12	16	17	15	11	6	6	6
Strongly agree	43	37	31	27	16	6	2	1

Future Growth of Barter

There was a general optimism about the future growth of barter systems, with some forecasting their replacement of up to a quarter of domestic business transactions. The involvement of Trading Associations is considered fundamental to this growth, even if no participant had been introduced to barter by such entities. There is limited apprehension about trading and fiscal laws becoming an obstacle to barter, or banks lobbying against it. Two competing perspectives were found on the operational aspects of future barter networks: one was based around technology, whereas the other proposed a system based on a traders network to facilitate transactions. Specialists tend to support the importance of Internet platforms, whilst network operators are at large creating trader-cantered structures. These views are underpinned beliefs about the role of barter as opposed to monetary systems, and how much they could be integrated in the future.

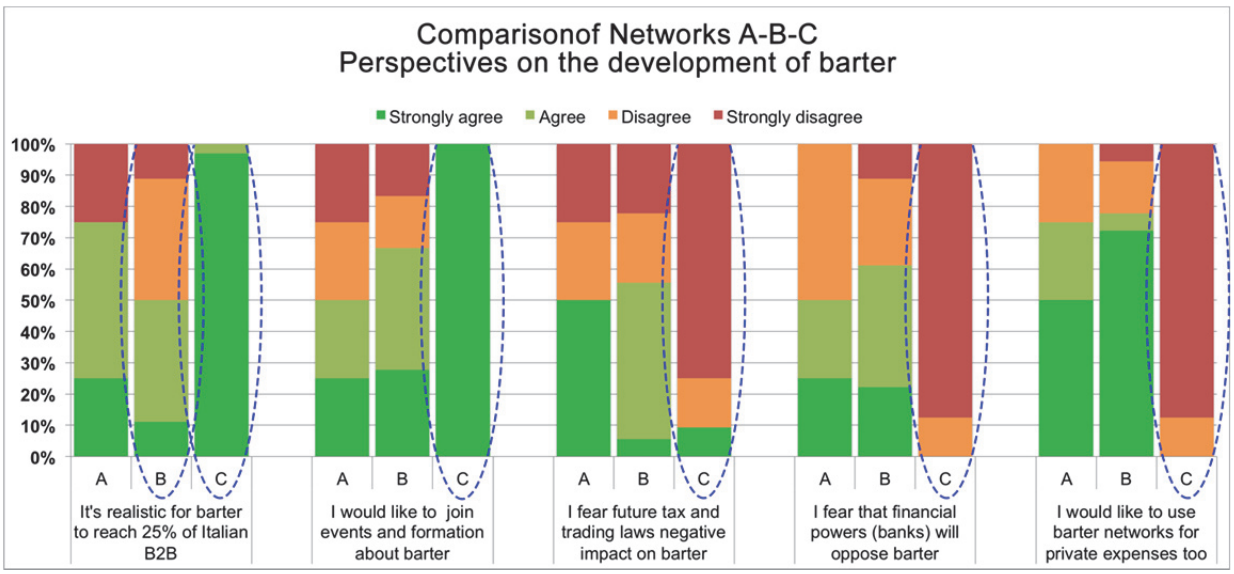
Whilst Italian SMEs appear reluctant to invest in new ICT platforms (Antonioli, Mazzanti and Pini, 2010) they remain highly sensitive to technology supporting networking because it reflects the traditional collaborative outlook in these regions (Chiarvesio, Di Maria and Micelli, 2004) in which a network based organisation is the dominant organisational structure (Capasso and Morrison, 2013). Despite the potential of IT systems, at present, Italian barter networks are powered by conventional and accessible web-based technology. This is an important factor because it ensures both affordable costs and easiness of adoption.

FIGURE 7
POSSIBLE FUTURE SCENARIOS FOR BARTER



When comparing the future scenarios for barter systems, the data revealed that each network has developed a distinct internal culture, as shown in Figure 8. Respondents from Network A (which promotes barter as a business strategy for expansion, alongside monetary exchanges) are mostly optimistic about barter reaching 25% of Italian B2B. They also are in favour of barter being used for private purchases. There is no clear trend in their answers to questions about the need for training and /or regulation, fears of institutional obstacles to barter coming from government or banks: their answers are equally distributed alongside different opinions. These findings are in harmony with the fact that Network A does not promote a barter culture in opposition to monetary transaction and targets any firm interested simply in autonomously growing their already successful business: their choice of barter is not associated with a specific take on politics or national economy.

FIGURE 8
COMPARISON OF NETWORKS A, B AND C.



Respondents from Network B (which promotes a trader dependent system) appeared to be less autonomous and half of them are not optimistic about the future growth of barter and their majority would welcome more training. They also hold no strong views about politics and national finance, and the majority of firm in Network B are strongly interested in running personal purchases through barter. Respondents within Network C (which actively promotes barter in opposition to money) are extremely homogenous in their answers. The majority are optimistic about the future national growth of barter, and they are generally very interested in events and training. The vast majority have a strong fear that the government might create obstacles to barter and they unanimously fear that financial institutions will oppose barter development. Interestingly, they are all unanimously against using barter for personal purchases. Network C clearly fostered a strong internal culture of barter almost ideologically in opposition to monetary transactions. These views are triangulated with the interview data and summarised in Figure 9.

FIGURE 9
SUMMARY OF INTERVIEW DATA KEY POINTS

	NETWORK OPERATORS				SPECIALISTS			TRADING ASS.		
	A	B	C	D	E	F	G	H	I	
Educating entrepreneurs to the benefits and meaning of barter	AGREE	AGREE	AGREE	AGREE	AGREE	AGREE	AGREE	AGREE	AGREE	
Create a professional figure for traders	AGREE			AGREE	AGREE			AGREE		
Allocate trusted referents in the local territory	AGREE	AGREE	AGREE	AGREE	AGREE	AGREE	AGREE	AGREE	AGREE	
Increase traders proactive human contacts with affiliates		AGREE	AGREE			DISAGREE	DISAGREE	AGREE	DISAGREE	(1)
Developing an effective technological platform	AGREE	DISAGREE	DISAGREE		AGREE	AGREE	AGREE	AGREE	AGREE	(2)
Increase barter system automation and integration with ERP systems	AGREE	DISAGREE	DISAGREE	DISAGREE	AGREE	AGREE	AGREE	DISAGREE		
Partnership between barter networks and banks	AGREE	DISAGREE	DISAGREE	AGREE		AGREE	AGREE	DISAGREE	AGREE	(3)
Increase integration with monetary credit circuits	AGREE	DISAGREE	DISAGREE	DISAGREE	AGREE	AGREE	AGREE		AGREE	
Emphasize dissociation with monetary systems	DISAGREE	AGREE	AGREE	AGREE		DISAGREE	DISAGREE	AGREE		
Gaining patronage of Trading Associations	AGREE	AGREE	AGREE			AGREE	AGREE	AGREE	AGREE	(4)
Expand barter to public sector spending					AGREE			AGREE		
Enable barter to consumers	AGREE					AGREE	AGREE	AGREE		
Combat fraudulent and pyramidal "barter" schemes				AGREE	AGREE			AGREE	AGREE	
Improvement of national structure and policies against online fraud	AGREE					AGREE	AGREE		AGREE	
Include energy suppliers in the barter circuits	AGREE			AGREE	AGREE	AGREE	AGREE	AGREE	AGREE	
Barter networks becoming corporations and joint-stock companies	AGREE			AGREE	AGREE	AGREE	AGREE	DISAGREE		
Transform the network in an accredited credit entity, or integrate it with one	AGREE	DISAGREE	DISAGREE	DISAGREE		AGREE	AGREE	DISAGREE		

AGREE

DISAGREE

NOTES

(1) F G envisage barter as too costly if based on physical traders, and unsustainable unless firms develop autonomous barter capabilities. I envisages Trading Associations promoting barter to their affiliates.

(2) B C D identify traders and not technology as the main resource of barter.

(3) Reasons: add credibility in local territory and increase affiliates via mutual conventions.

(4) A B C feel that scams will become an issue once barter will become more common but at this stage efforts should focus on develop effective barter.

CONCLUSIONS AND RECOMMENDATIONS

In this case study of Italian barter networks, existing strong collaborative networks are an essential part of the local trading mentality and process and to some extent, barter systems are a logical extension of this. However, barter still suffers from various degrees of stigma, as well as a lack of regulation compared to monetary / banking systems. Barter has a poor reputation and the perception of tax avoidance. The use of the English word "barter" has been used to try to overcome this popular misconception.

The counterintuitive approach taken to promote barter systems by referring to financial crisis, but only allowing entry to such networks for companies with strong financial performance also appears contradictory. In contrast to the expected position of barter being relevant to companies in financial crisis, Italian barter systems offer a way through temporary liquidity issues and firms choosing to barter appeared to be more focused on growth, speed of growth, increased market visibility, and gaining new customers rather than survival. It seems likely that firms would continue to use barter irrespective of the particular economic or business cycle, and are more open to "*opportunities for structuring substantially new business models*" (Kaikati and Kaikati, 2013, p. 47).

Italian Barter systems operate in 2 distinct ways: through technology based barter networks or through agent based barter networks. Personal contacts provide an extra layer of control in a culture, where contractual rights don't offer sufficient peace of mind. Participant D, whose network has been active for over a decade, confirmed that the main problem for Italian barter is not in the lack of technological implementation, but rather in the low level of qualifications of traders, which in his view, remains the most important resource of barter. Yet experiments show that electronic web based systems could work (Bravetti et al, 2007; Duffy, 2001; Fortino and Russo, 2012). Indeed, technology is currently only playing a very small role in the rise of barter in Italy. Barter trade is currently facilitated by externally trusted traders, a model that reflects the Italian business culture of strong personal relationships. Whilst innovative, it does not represent a form of discontinuous change but rather a novel application of a long-standing business mentality that favours interpersonal relationships. Indeed, the rise of barter in Italy can largely be ascribed to the proactive work of traders, allowing companies to experience the benefits of barter with minimal investment and reorganization. As the interest for barter grows, a centralized relational model may no longer prove sustainable and effective to support the expansion of existing networks.

The main motivations of companies within the barter systems were overwhelmingly not crisis related but growth oriented as suggested by Kaikati and Kaikati (2013). This is in contrast to the way that barter is promoted by the networks which rely on the old adage that barter is an appropriate response to economic crisis. This suggests a more modern approach to the marketing of barter systems are required, and that its old image of being either "planned economies" or "crisis management", should be reviewed. Since barter system require a critical mass of companies offering things that other companies need, once this has been achieved, networks could now focus on facilitating higher levels of autonomy for their members.

The general experience of companies within the barter system is that it brings in new customers, and at present, companies prefer to retain the personal contact through an agent-based system. There was also little requirement to set up new internal systems and therefore no new business model was required in most cases. This situation enables the existing networks to work, but leads to complications with skills, training, and regulation of such an agent-based system. In summary, Italian barter operators are currently capable of handling the *trading* aspect of it but are not ready to manage barter as a *financial credit* institution: because they lack the expertise, the credentials, the regulations and the critical mass.

The Future of Barter Trade in Italy

To extend barter systems, a future online barter system would require three main elements: a sophisticated online platform; a large network in which both purchases and sales can be resolved (without the need for traders to spend time to find new members); and an enhanced credibility framework that ensures adequate levels of trust to new members. To this end, barter networks should envisage gaining the same type of accreditation as credit institutions, which would supply the trust necessary to encourage members to barter autonomously. It is highly recommended that current reputable barter networks need to push for the establishment of a national certification or regulation to prevent the future expansion of barter leading to a proliferation of questionable (if not fraudulent) entities.

A barter network is essentially a credit supplier and, there could be a strong temptation to "build one's own bank" without the necessary competences and credentials. This worst case scenario envisages hit-and-run schemes aiming to collect membership fees without building a proper trading network. Other future risks include the barter networks making the same errors that led to the monetary financial crisis: internal hyperinflation, reckless offering of credit, offer-demand disequilibrium and internal speculations. The current lack of specific regulations is perceived as beneficial within a county beset with overregulation: this situation could instead be seen as an opportunity for barter operators to influence legislation for their own protection.

Finally, the expansion of barter within Italy, could be accelerated by some form of alliance or joint venture between a barter network and a credit institute. This study revealed that only a minority of network operators are working in this direction. It would be important to know if any of the existing barter networks is capable of making this change from trading network to credit entity. This could only happen once a network reaches a ceiling that makes internal equilibrium unmanageable, in which case there are two possible routes to further growth:

- The barter network forms a partnership with an existing credit/banking group in order to complement monetary and non-monetary mediums of exchange. The could work because the barter network lacks the experience and authorisation to manage monetary credit but the bank would off this experience, and make barter a viable alternative to the current monetary system.
- A second option involves the barter network creating a partnership with a sector that offers a common commodity to all the members of the network, for example, an energy provider. In this case, the injection of a huge volume of easily exchangeable commodities within the network would allow maintenance of the equilibrium. This second option would result in the network becoming dependent on one large member who could become too powerful and alter the status of independence of the network operators.

A more feasible possibility is that the change from trading to financial will happen from external influence, and not as an evolution of current barter networks. Two ways are envisaged. One possibility is that a group of investors will partner with credit institutions, Trading Associations, energy (or communication) providers and invite in its board of directors some authoritative representative of Italian finance, industry or politics. Such an entity would have the required credentials to become a credible, large and dominant barter operator without the need to leverage on existing commercial networks. Trading associations, who are a strong presence among the Italian SMEs, would also provide a huge pool of potential customers. Additionally, Trading Associations already manage or at least have access to their members' accounts and could therefore easily implement the necessary vetting processes to ensure the credit worthiness of potential barter affiliates. These institutions already have at their disposal a large supply of both quantitative and qualitative data about trading transactions and supply chains across various commercial and industrial sectors (i.e. all the data necessary to create a preliminary model of internal equilibrium and sustainability). These Associations also carry out an advisory role and would be very well positioned to persuade their members to engage in barter transactions. It should be noted that Italian trading associations are highly politicised and have strong ties with local government, national politics and commercial banks. The associated bank groups would be capable of managing barter credits in the fashion of monetary credits providing sufficient levels of control, credibility, risk management and macroeconomics expertise. There are few incentives for Trading Associations and associated banks to move into this new system, but it could provide an innovative way of extending their customer base, operations, and profit.

An alternative future development of a large barter network could be initiated by a powerful IT company, in particular a provider of ERP systems. In the case of Italy, this option appears quite remote but in a global context there are powerful corporations providing commercial software to manage accounting, ERP, supply chain, accounts payable and SPM. These companies already manage the largest global business networks and host in their servers the most comprehensive set of raw data about transactions of millions of enterprises. If they decided to evolve into a financial/credit institution, they would be very well positioned to elaborate an indirect barter platform integrated in their existing discovery networks.

Contribution to Literature

The main element of originality of this research is that it focuses on the Italian context. Whereas abundant literature addresses the peculiarity of Italian SME districts and collaboration models, these studies don't address the phenomenon of non-monetary exchanges. Another valuable contribution pertains to research on the correlation between barter and business cycles which provided different results in different countries.

This research diverges from common research on barter because it goes beyond its definition as a bilateral exchanges, therefore it provides a novel insight on the effectiveness of structures that allow multilateral asynchronous transaction. Moreover, this study transcends the classic approach of considering barter in opposition to money by presenting evidence of a smooth coexistence of monetary and non-monetary exchanges within a business model. Finally, this research contextualises e-barter providing insight on motives, adoption challenges and sustainability of innovative business models within specific organisational and trading culture.

Limitations and Research Recommendations

The use of a case study methodology inherently brings limitations (Flyvberg, 2006), such as the lack of generalizability, but much of what was seen in this Italian case study could apply to other countries. The heavy reliance on personal relationships and the need for trust may not transfer to other cultures, but the requirement for a range of companies looking for growth options rather than to deal with immediate crises is likely to transfer to other situations.

In addition, the amount of data gathered for any case study can always be improved upon: a larger study would help to not only the design of such barter systems but also the optimal distribution and volumes of business sectors that could make a network sustainable. As many theoretical studies on barter within monetary theories are focused only the traditional bilateral barter, it would be useful to extend them to *multilateral asynchronous* barter, with particular focus on the conditions to reach an internal equilibrium. Finally, because recent forms of multilateral barter networks act de facto as dispensers of trading credits, it would be useful to include data on barter transaction in studies pertaining to trading credits strategies and usage.

In conclusion, and despite the unique setting, the implications for the growth of regional trade through barter networks offers a viable strategy for participants, agents and new electronic systems.

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Work, Non-Work Boundaries and the Right to Disconnect

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Work-life conflict involves the competing demands of work and nonwork activities that often trigger feelings of stress and anxiety that can endanger individuals' professional and personal lives. As a result, organizations and nations have been encouraged to create more employee-friendly job arrangements in terms of where, when, and how individuals work. Providing employees greater choice and flexible work boundaries, however, often turns into work without boundaries creating problematic consequences for both firms and workers. This "always on" culture has been made possible by several factors most importantly by enhanced communication technology involving connectivity and immediacy that enable employees to communicate anytime and from anywhere. While organizations are addressing this imbalance and attempting to mitigate the often-negative effects of such professional-personal conflict, politicians have initiated legislation that attempts to switch off the 24-7-365 availability mindset by considering and sometimes adopting "right to disconnect laws."

INTRODUCTION

> "Employees physically leave the office, but they do not leave their work. They remain attached by a kind of electronic leash—like a dog. The texts, the messages, the emails—they colonize the life of the individual to the point where he or she eventually breaks down." —Benoit Hamon of the French National Assembly (2016)

The typical professional and technical employee until late in the 1900s came to their office and worked Monday through Friday and did their job in blocks of eight- or nine-hours. Both the workplace and the work hours were unambiguously identified. Nowadays, there is increasingly an independence of work from place and jobs are being done not only at home but also in transit and on vacation in many organizations. The workplace is no longer contained within the four walls but wherever individuals take their smartphone, pager, laptop, or smartwatch, and where they can continue to work beyond the traditional workday. The idea that employees must operate within a traditional model of fixed 9 to 5 working hours and physical offices has become obsolete.

This has occurred as firms attempt to satisfy employee appeals for greater choice and flexibility and customer demands for immediate service. This has created a "double-edged sword" (Marcum, Cameron, & Versweyveld, 2018, p. 75) when it comes to work-life balance. While providing for more flexibility, the use of digital communication devices means that employees are increasingly incapable of escaping work (Challenger, Gray, & Christmas, Inc., 2017). Employers electronically contact their employees through text message, chat, or email, "after work" (after work depends on when the employer expects an employee to be available but does not refer to any specific time period) to attend to some task, duty, project, or assignment. For example, in a survey of 150 managers Challenger et al. (2017) found 82.9 percent of supervisors said they would reach out to their employees after hours, with 28.6 percent of those respondents expecting a response within a few hours. Most of the contact after hours is digital, with nearly 80 percent of managers stating they would use email or text message. Forty-two percent would call their subordinates, while nearly 25 percent would use social media or chat software to contact their employees. In fact, the *mere expectation* of availability increases strain for workers and their families—even when personnel do not engage in *actual work* during nonwork time (Becker, Belkin, & Tuskey, 2018). According to Becker (2018), "Such expectations—whether real or imagined—cause more problems, including burnout and work-life balance problems, than the actual time it takes to read and respond to after hours' emails."

Amazon has become the prototype for a work culture which encourages endless work. Employees of the firm are regularly encouraged to "toil long and late" and the company boasts of its unreasonably high standards and claims that creating a high intensity work environment is what has brought them so much success (Kantor & Streitfield, 2105). Such a work culture appears to be validated by former Amazon employee, Nichole Gracely (2104), who authored "Being homeless is better than working for Amazon."

Such workplace dynamics, however, can cause problems for employees and employers, and this has led increased concerns about the safety and health of employees who work too many hours. Studies consistently show that tired, stressed-out employees get injured, sick, and miss work at high rates (Belkin, Becker, & Conroy, 2016) and employers notice a lack of productivity from overworked employees because additional work at some point does not equal better work (Secunda, 2018). Exposure to constant workplace needs, or even the anticipation of such demands is detrimental to employee health (Semmer, 2007). These employees also experience high levels of professional and personal life conflict.

DISCUSSION

Work-Family Conflict

Work-family conflict variously known as work-life (im)balance, work interference with family, work-life fit, work-life integration, work-life interface, and work-to-family spillover is "a form of inter-role conflict in which the role pressures from the work and family domains are mutually incompatible in some respect" (Greenhaus & Beutell, 1985, p. 77). Such terms suggest that fulfilling work demands of employees' current role interfere with their personal life (and vice versa) making it difficult to satisfy expectations for both domains. Moreover, this work-life (im)balance seems to be particularly important to college students (Lowe & Gayle, 2007), and millennials (individuals born between 1982 and 2004; Strauss & Howe, 1991), the group that companies indicate they are focused on attracting and retaining, and who are most dissatisfied and frustrated about work-family (im)balance (Fondas. 2015; Kirby & Krone, 2002; Marcum et al., 2018).

The issue of work-life balance has received extensive publicity during the past two decades as the number of women with children and the number of people caring for aging relatives have both increased in the workforce. This demographic change has, in turn, increased the demand for organizations to adopt work-life balance programs, such as on-site daycare centers, elder care programs, employee assistance programs, paternity leave, telecommuting, and flex time (Burke, 2006). Employers' responses to this increasing conflict, however, have varied widely and some employers have adopted work-life balance programs and many others have not.

In response to this lack of commitment to work-family balance, politicians, urged by their constituents, are increasingly calling for firms to provide employees the "right to disconnect." We address this issue by first noting factors that cloud the lines between work and home, then discuss negatives associated with such blurring. Next, we briefly review steps various organizations are doing to address this issue, then examine what politicians in some countries are considering and, in some cases, doing, to address this topic in terms of right to disconnect laws. Finally, we present concerns about right to disconnect laws and conclude with a summary.

Factors Obscuring Work and Home Life Boundaries

Difficulties in balancing work and home demands are commonplace in modern societies and may be one of the greatest challenges' individuals face in contemporary society (Halpern, 2004; Kossek & Lambert, 2005). Several factors have contributed to the blurring of lines between employees' work life and personal life (e.g., Castells, 2007; Mazmanian, Orlikowski, & Yates, 2013). First, the creation of global organizations causes their world to never sleep. At any time and on any day workers from many multinational firms are working and the need to consult with or communicate with coworkers or customers 10- or 15-time zones away which means that many employees of such firms are "on-call" 24 hours a day.

Second, organizations in some countries are asking employees to put in longer hours. For instance, in the United States 85.8 percent of males and 66.5 percent of females work more than 40 hours per week (Miller, 2018). Van Giezen, (2013) reported that 77% of U.S. workers get paid vacation, yet only 51% of paid vacation days are used and 61% of those who do take vacation are working while on vacation. Moreover, trends such as road rage, workplace shootings, the rising number of children in day care, and increasing demands for after-school activities to occupy children whose parents are too busy or still at work also suggest that people are working long hours (Barnett, 2006; Schabner, 2018). Japan and South Korea, countries having a reputation for brutal work hours, expect their employees to put in long hours at their jobs. Also, according to United Nations' Organisation for Economic Co-operation and Development (OCED), Mexicans work the most hours out of any country every year—2,246 on average (McCarthy, 2018).

Third, demographic changes resulting in the number of women with children and the number of people caring for aging relatives have both increased in the workforce (Wang, & Verma, 2012). Furthermore, fewer families have only a single working adult. Today's married employee is typically part of a dual-career couple, often with children at home. In 1960, only 20 percent of mothers worked. Today, 70 percent of American children live in households where all adults are employed. This makes it increasingly difficult for married employees to find the time to fulfill commitments, to home, spouse, children, parents, and friends (United States Department of Labor, Bureau of Labor Statistics, 2017). These factors are not only leading to erasing the distinctions between an individual's job and home but are also causing problems for employees and organizations as discussed in greater detail below.

Fourth, an ideal employee schema (Acker, 1990; Albiston, 2010; Williams, 2000)—which portrays a worker as serious, committed, promotable, and willing to work full-time (and longer), all-year, on a schedule determined by the employer, with no significant breaks in employment, and available for work outside the factory or office (Blair-Loy, 2003; Moen & Roehling, 2005; Williams, 2000)—produces more fluid work-family boundaries (Chesley, Moen, & Shore, 2003; Galinsky, Kim, & Bond, 2001). For many employees who want to impress their supervisors and rise in the corporate ranks, being connected at all hours is an implicit expectation (Burns, 2016). Their connectivity is hence self-created.

Fifth, and perhaps most importantly, work-family difficulties have been impacted by enhanced communication technology involving connectivity and immediacy such as emails, smartphones (portable tools that combine a mobile phone with a collection of software applications, which were traditionally accessed via computers; Wei, 2008), social networking websites, video conferencing, the Internet, instant messaging, virtual teams, and cloud-based applications that can be accessed anytime, from anywhere. This technology, especially the mobile phone which is typically always with its user and is rarely separated from its owner, and is in use, or ready for use, all the time (Derks, van Duin, Tims, & Bakker, 2015), has enabled employees to stay connected to their job in increasingly global and geographically dispersed operations (Kossek & Lautsch, 2008; Kreiner, Hollensbe, & Sheep, 2009), has created a 24-7-365 economy where workers are expected to be "always on" (Deal, 2015; Sadeghniiat-Haghighi & Yazdi, 2015). Moreover, the universal expectation that everyone be available by smartphone or laptop to respond to any minor query immediately has contributed to this "on call 24/7" culture that puts people on a permanent state of reactive alert sometimes resulting in individuals "*Sleeping with Your [Their] Smartphone*" (Perlow, 2012).

A final factor contributing to the permeability of the boundaries between work and leisure is that technology advancements and the dramatic increase in the use of technology during the last several years may have an addictive character (Sultan, 2014; Vaghefi, Lapointe, & Boudreau-Pinsonneault, 2017), especially smartphones (De-Sola Gutiérrez, Rodríguez de Fonseca, & Rubio, 2016), that can create difficulties for users (Chóliz, 2010). Some have argued that smartphones are addictive by design. Tristan Harris, a former product philosopher at Google, calls smartphones the "Slot Machine in Your Pocket" (2016).

Like substance addiction, excessive and compulsive use of technology has been shown to be linked with risky behaviors such as ignoring important professional and personal life duties. Also, recent neurobiological findings have revealed that there are similar neural mechanisms associated with substance and technology-related types of addictions (Turel, He, Xue, Xiao, & Bechara, 2014) and removing connections can result in anxiety and other negative effect consistent with an addict going through withdrawal. Indeed, a high level of importance on remaining connected to their organizations can induce behaviors that demonstrate a virtual obsession with constantly checking for new work-affiliated communications (Marulanda-Carter & Jackson, 2012; Turel, Serenko, & Bontis, 2011). For example, a study conducted by Matusik and Mickel (2011) found that several employees felt such a strong urge to remain connected that they readily admitted to reading their work-related emails while in the bathroom, and Jackson, Dawson, and Wilson (2003) found that 70% of the employees opened applications to read messages within six seconds, and 85% within two minutes of receipt. It appears that some individuals do not know when to "turn off" work.

These factors contribute to permeable boundaries between an employee's job and their personal time. This situation triggers problematic scenarios discussed below.

Negative Effects for Individuals and Organizations of Work-Home Conflict

Although the insidious impact of an "always on" organizational culture is often masked as a benefit—increased convenience or higher autonomy and control over work-life boundaries—the reality seems to be that flexible work-life boundaries often compromise employees' and their family's well-being. The above factors increase the risk of an imbalance between work and family life (Higgins & Duxbury, 2005) and is one of the major causes of work-home interference (Higgins & Duxbury, 1992) in such a way that participation in the work role conflicts with participation in the home role (Greenhaus & Beutell, 1985; Van Hooff, Geurts, Kompier, & Taris, 2007).

A round-the-clock or nonstop service environment has produced a condition where more and more people are feeling the impact of technologies' demands on their time and energy (Wickwire, Geiger-Brown, Scharf, & Drake, 2017), where the separation between work and nonwork domains is obscured (Derks et al., 2015), and where the boundaries between work and family life become permeable (e.g., Green, 2002; Jarvenpaa & Lang, 2005). This can lead to work-life conflict characterized by tension associated with incompatible expectations and challenges from both work and home domains (Kreiner et al., 2009).

An imbalance of the "work" and "lifestyle" spheres can lead to negative outcomes for individuals, which include a poorer quality of life and decreased life satisfaction (Allen, Herst, Bruck, & Sutton, 2000; Greenhaus, Collins, & Shaw, 2003; Kofodimos 1993), psychological strain, depression, anxiety, and alcohol abuse (Allen et al., 2000). Work-life conflicts are also associated with related increased stress in marriage, in child-parent relationship difficulties, and in child development problems (Gornick & Meyers 2003). The work-life conflict is also important for employers, as it can have negative repercussions for the well-being and performance of employees in their work place (Alpert & Culbertson 1987; Burke 1988; Frone, Russell, & Barnes, 1996; Googins 1991). Furthermore, a work-life imbalance can lead to a lack of the time necessary to meet obligations at home and at work, which can in turn lead to stress and anxiety at home that then affects performance at work (Greenhaus & Beutell 1985; Kopelman, Greenhaus, & Connolly, 1983). Finally, when the demands of work hamper the pursuit of other life interests, it is likely to create tensions and strains among employees. Work interferes with family life and vice versa (Aldous, 1969; Crouter, 1984; Piotrkowski, 1979). Emotional stress is a major contributing factor to the six leading causes of death in the United States: cancer, coronary heart disease, accidental injuries, respiratory disorders, cirrhosis of the liver and suicide (Mohd, 2008). Moreover, there are few things that stress individuals out on a consistent basis like work does, especially when it takes away from all the other things that life offers.

The “always-on” work culture also creates numerous problems for organizations stemming primarily from the fact that it denies workers a sense of individual efficacy and autonomy by putting them on a permanent state of reactive alert. It drains morale and initiative, and scatters employees’ mental resources, making it difficult for them to take ownership of projects and prioritize their efforts. Additionally, research on working long hours is associated with productivity decreases for firms (Golden, 2012). For example, Nishiyama and Fujikawa (2017) noted that Japan’s legendary long work hours has not helped their economy much. Japan barely grew for most of the past quarter-century, and the average worker is only two-thirds as productive as the average American, a gap that has stayed persistently wide. From another perspective, consider also Germany’s relatively short work hours. German employees count on four weeks of vacation a year and enjoy some of the shortest work weeks known to Europe. In the manufacturing sector, it is standard to work only 35 hours each week. Despite fewer work hours German productivity is the industrial powerhouse of Europe and a leading manufacturer of goods for export to developing Asian nations (Sarva, 2017). Perhaps less is more.

Organizations Respond to Work-Life Conflict

A main conclusion of two decades of research in the work-life conflict area is that most employees have a problem balancing work and family demands. In response, people are expressing the need for an improved sense of work-family fit and it has become central to maintaining a diverse and inclusive workplace. Employees are increasingly recognizing that work is squeezing out personal lives, and they are not pleased about it. For example, recent studies suggest that workers want jobs that give them flexibility often understood as involving employees’ control over the timing of their work, the number of hours they work, and the location of their work (Kelly, Moen, & Tranby, 2011; Schieman, Milkie, & Glavin, 2009) in their work schedules so they can better manage work-life interference. In addition, the next generation of employees is likely to show similar concerns.

Organizations are responding by helping their employees maintain a healthy professional-personal balance and have crafted policies and practices to address the changing needs and demands of employees and help them achieve better work-life balance (Donovan, 2016). Such interventions are typically defined as family-friendly policies or work-life benefits and programs (WLBPs) that make it easier for individuals to manage the often-clashing worlds of work and family lives (Osterman, 1995). WLBPs, also known as human resource initiatives, can be organized into three major categories, policies, benefits and services (Baral1 & Bhargava, 2011). Policies cover the formal and informal ways by which employees’ work and leave schedules are handled, including part-time work, and parental/family leave. Benefits address different forms of compensation that protect against loss of earnings, payment of medical expenses and sponsored vacation. Services include on-site or near-site childcare centers, medical facilities and counseling. WLBPs also include government mandated statutory policies such as maternity leave and benefits as well as discretionary firm policies and benefits such as flextime, telecommuting and employee assistance programs such as stress management programs (Ingram & Simons, 1995; Osterman, 1995; Perry-Smith & Blum, 2000; Zedeck & Mosier, 1990).

Some organizations are finding human resource advantages to relaxing normative expectations concerning working over-time. For example, in Germany, employers are taking steps to cut their employees’ technological “leashes.” At the behest of labor council-enforced decisions to put a ban on the work-related use of communicative devices after working hours at both Volkswagen and BMW, Öchsner (2016) observed that somewhere in early 2012 (Volkswagen) and 2014 (BMW) onward, all mail that reaches these company’s server after office hours is put on hold or deleted, and company phones go off-service from the end of day, until the beginning of the next. Likewise, workers at Daimler can set their email software to automatically delete incoming emails while they are on vacation (already forbidden under German law), a move that has affected around 100,000 employees. When an email is sent, the program, which is called "Mail on Holiday," issues a reply to the sender that the person is out of the office and that the email will be deleted, while also offering the contact information of another employee for pressing matters (BBC News, 2014).

In America, accounting and consulting firm Deloitte and Touche significantly improved its 33% turnover rate for women when it revised its implicit requirement that members work 80-hour work weeks (Babcock & Laschever, 2003). Similarly, Perlow (2012) recounts an intervention with Boston Consulting Group, an elite professional services firm, where people are "always on" if the client calls because the client pays large sums of money for its services. She attempted in a very small way to switch off the always-on culture by giving each worker one night per week off the grid after 6 p.m. It also took regular reviews and reminders to convince workers to truly take that little bit of time off. But once they changed this small part of the company culture, the employees and the organization noticed significant ripple effects in the form of smarter collaborative approaches to solving all kinds of problems that everyone had formerly ignored. Workers felt more energized and engaged, and retention rates increased significantly. And at Philadelphia-based healthcare management consulting firm, Vynamic, the company encourages a healthy public and private lives by prohibiting emails after 10 p.m. and on weekends (Kress, 2016).

Although employers often define work-family integration as a parenting or dependent care issue, over time, many firms are broadening the policies and practices to support employees' participation in many life roles and even personal developments. There is a growing recognition of the need to support not only those with visible family needs and responsibilities (e.g., working mothers having child care responsibilities), but all employees at many life stages who may experience work-life stresses regardless of their family status. Earlier, adoption of WLBPs has largely been viewed as practical response to the increasing proportion of women employees in the workforce, employees with caring responsibilities, and the problems such as absenteeism, turnover associated with that (Lambert, 2000). However, in recent years, embracing such programs and policies are being considered as a part of high commitment work systems (Osterman, 1995) required for ensuring high levels of employee commitment and innovation. WLBPs are increasingly being considered as strategic, innovative, crucial, and progressive (Lambert, 2000; Perry-Smith & Blum, 2000; Tenbrunsel, Brett, Maoz, Stroh, & Reilly, 1995).

Such corporate self-regulatory approaches to controlling work hours because of advancements in digital communication technology allows employees to engage in discussions with the relevant partners to develop unique rules that are tailored to the needs of each party. It also encourages employers to develop regulations that serve their industrial needs. Such regulation by employers may be better than passing rigid legislation, which pushes lawmakers to balance between legislating regulations which are simplistic to apply with clarity and leave or developing comprehensive rules which apply in every conceivable situation but risk becoming too difficult to apply or enforce.

The risk, however, with self-regulation is that employers will create rules which seem to favor employees on the surface, but in fact fail to provide substantive protections (Legace, 2007). The incentive for employers to develop such surface-level regulation is high, because they reap the benefits of increased public relations and recruitment of better employee. Moreover, nothing requires employers to engage in corporate self-regulation. While there are a few prominent examples of employers who have been proactive as indicated above, there has not been a significant shift in after hour communication with employees on a large-scale and most companies do not have after hours' communications policies and are not even contemplating implementing one (Challenger et al., 2017). Therefore, governments at various levels are acting.

Governments Respond to Work-Life Conflict

While some organizations and firms have introduced policies and practices that attempt to provide a more balanced approach to work and nonwork activities, politicians and governments around the world have begun exploring, and in some cases passing, statutes and regulations allowing employees the freedom to not have to engage with job activities outside of official work hours. Indeed, some say that the right to disconnect from work and primarily not to engage in work-related electronic communications such as emails or messages during non-work hours is a human right (Singh, 2018) and consistent with the definition of a human right by The Equality and Human Rights Commission: “basic rights and freedoms that belong to every person in the world….” (The Equality and Human Rights Commission, 2018). Giving employees the right to disconnect legislatively seems to be a part of new a movement.

Such laws help to establish concrete boundaries between work expectations and family needs by setting up off-hour electronic communication windows or schedules when employees are available to respond. These laws often require employers to adopt an after hours’ cessation policy and claim that workers should have the ability to disengage from work and not participate in work-related communication and information technologies and other digital tools during non-work hours (Schofield, 2016; Staufenberg, 2016). Right to disconnect regulations seem to be gaining popularity in numerous countries since France implemented such a rule in 2017. A short review after work electronic communication practices in several countries is now offered.

France. France has been the most proactive country in establishing legal frameworks protecting a worker’s right to disconnect. In 2001 the idea was considered when the French Supreme Court ruled that employees are under no obligation to bring work home, and as technology progressed the Court continued to update its ruling. In 2004 the Supreme Court held that it was not misconduct if an employee was not reachable on a smartphone outside of work hours (Labor Chamber of the Cour de Cassation, 2004).

The right to disconnect was implemented January 1, 2017 with France establishing what is known as the pioneering El Khomri Law, after French Labor Secretary Myriam El Khomri (Code du Travail, 2016). According to these provisions, which only concern companies employing more than fifty employees, an annual negotiation meeting must be held between the employer and the employees’ representatives to discuss:

> Modalities by which employees exercise their rights to disconnect, and the setting up of company regulations on digital devices and tools, will be completed with a view to ensuring respect for rest, personal life, and family leave periods. In the absence of agreement, the employer shall draw up a charter, after advice from the enterprise committee, or alternatively, from the staff delegates. The charter will define the modalities by which employees may exercise the right to disconnect and provide for the implementation of training and awareness tools for the benefit of employees, management, and management personnel (Code Du Travail Art.55).

In the absence of such agreement between the staff representatives and the employer, the latter should draw up a charter defining the “modalities for the exercise of the right to disconnect.” This charter also specifies governing rules to ensure “a reasonable use of digital tools.” The intention of the French legislation is to give to both employers and employees’ representatives some flexibility, considering the disparities that may affect employees using digital tools. It was borne of the idea that it is beneficial for people not to work all the time, and that workers have the right to draw the line when their employer’s demands intrude on evenings at home or time with friends and family (Alissa, 2017).

This law is reasonably vague and does not restrict after hours work communication, but rather obliges organizations to negotiate these terms clearly with prospective employees. While the new law imposes an obligation for large companies to negotiate there is no obligation to reach an agreement, therefore if no agreement is reached between company and employees the right cannot be applied and enforced. Likewise, there are no fines for companies who flout the new rules. Nevertheless, the French subsidiary of British pest control and hygiene giant Rentokil Initial has been ordered to pay a former employee €60,000 because it failed to respect his “right to disconnect” from his phone and computer outside office hours (Samuel, 2018). The ruling is believed to be the first of its kind. In its decision dated July 12, 2018, France’s Court de Cassation, its Supreme Court, found it unfair that the former South West regional director of the company in France, to have to permanently leave his telephone on and to respond to requests from his subordinates or customers in case of any problems while not at work. Rentokil did not consider the employee to be officially on call and so did not compensate him for this work. But the court ruled that the employee was indeed on call because his contact details were listed explicitly as someone to be contacted in an emergency and that he should be paid for his time. Overall, the French *droit à la déconnexion* regulation is now legally enshrined and appears to be laying the groundwork for other countries to consider (Secunda, 2018), including America.

USA. Often, European ideas do make their way into the United States, so the right to disconnect could become an issue in the United States. Consistent with this perspective, a recent bill drafted by New York City councilpersons has been introduced. It is the country's first local regulation proposing to make it illegal for employers to require employees be email contactable outside of normal work hours (Espinal, Ampry-Samuel, Ayala, Maisel, & Constantinides, 2018). The legislation is much more restrictive than its European counterpart, essentially making it a flat rule that employees cannot be forced into electronic communication contact outside of paid work hours.

There are some exemptions in the bill, like one for small employers (less than 10) and another for emergencies. But, generally, it forbids employers from taking adverse employment actions against workers who do not reply to work-related texts and emails outside of their normal workday. Moreover, employers will be required to adopt a written policy regarding the use by employees of electronic devices for work-related purposes during non-work hours. The bill proposes a number of penalties for employers who fail to comply with its provisions, including: (i) a $50 fine for each employee who does not receive proper notice of their right to disconnect; (ii) a $250 fine for each instance of requiring an employee to check electronic communications after work hours; and (iii) fines ranging between $500 and $2,500 for retaliating against employees for asserting their rights under the bill (Kirby, 2018). The regulation has yet to be passed but is still under consideration by the city council.

Canada. The federal government, as part of an eventual new labor code is now exploring a law that gives workers a "right to disconnect": in other words, doing uncompensated work while commuting or at home (Montgomery, 2018). The federal government recently completed a ten-month consultation of working conditions in Canada (Employment and Social Development Canada, 2018) and one of the issues surfaced was how many people are obliged, or feel obliged to work additional hours electronically, through phones or computers. Interestingly, 93% of respondents stated that employees should have the right to refuse to respond to work-related communication outside of working hours. The right to disconnect was part of a year-long consultation process involving issues of work-life balance, along with other subjects such as minimum-wage guidelines, and a variety of issues regarding precarious work such as contract flipping. The Canadian law being considered would primarily affect federal employees in such industries as transport, banking, and telecommunications although in time it could extend to provincial workers and then possibly the private sector.

The federal Liberals are pushing for a closer examination of the issue and currently there is a split between labor and employers over whether further consideration of such a measure should be advanced (Press, 2018). Quebec Solidaire's Gabriel Nadeau-Dubois also tabled a private member's bill (otherwise known as the "Right-to-Disconnect Act") in the Quebec national assembly in March 2018 that aims to "ensure that employee rest periods are respected by requiring employers to adopt an after-hour's disconnection policy." The proposal calls for fines between $1,000 to $30,000 for companies that refuse to draft a proper policy or reassess it annually to ensure it remains up to date and effective. Should it pass in the future, Québec would become the first Canadian province to enact legislation largely inspired by the French law. The bill also includes penalties, such as fines, for employers who fail to comply (O'Dell, 2018). And some say that a Canadian right to disconnect regulation could come in a 2019 labor code update at the federal level (Huffington Post Canada, 2018).

Italy. Italy in 2017 incorporated a similar France's right to disconnect law which also requires contractual clarity over an employee's responsibility to communicate outside of general work hours. This "smart working" legislation was designed to protect self-employed workers and autonomous and flexible work arrangement employees (Figueora, 2017). Smart-working is work characterized using technological tools which allow work to be performed partly within, and partly outside, the company premises, without a fixed location, subject only to the sole restriction of a maximum number of daily and weekly working hours. Smart-workers have a right to disconnect from their technological equipment at the end of their working day. The technical and organizational measures to ensure the right of disconnect must be set out in the agreement (signed between the employer and the worker) defining the terms on which the smart-working must be performed (Piper, 2017). The bill has yet to be acted upon.

Philippines. Labor Secretary Silvestre Bello III noted in 2017 that "the 'right to disconnect,' or letting employees disregard work-related communications after office hours without disciplinary action is, technically, a voluntary engagement between employers and their employees…. Answering or ignoring texts, emails from employers after working hours is a voluntary engagement of an employee, and they are not obliged to respond or not. The right to disconnect is a choice of an employee" (De Vega, 2017). Quezon City Representative Winston Castelo authored House Bill 4721, which aims to amend the Labor Code of the Philippines. The bill obliges employers "to establish the hours when employees are not supposed to send or answer work-related e-mails, texts, or calls," and the conditions and exemptions in line with it, subject to rules provided by the Department of Labor and Employment (De Vega, 2017).

Belgium. In December 2017, the Federal Minister of Work issued a proposal to oblige companies to make agreements with their employees on how they should manage emails that are received after working hours or during the weekend (Perquy, 2018). The proposal is merely an obligation to have an agreement between the employer and its employees. The agreements should respect that there are certain hours or time blocks in which employees should not be disturbed during their leisure time. The proposal has been discussed and adopted in the federal parliament in April 2018. It is yet to be seen how it will be implemented in practice. Interestingly, the company Lidl is already setting an example in Belgium by ensuring that emails being sent after 6 p.m., will only be received in the employees' mailboxes at 7:00 a.m. the next morning, ensuring that employees do not check their inbox after work.

Luxembourg. In this nation the employee of a company of at least fifteen workers may discuss with the personnel representative in charge of safety and health and mention his or her concern about after hours work communication. In smaller companies, the employee could remind his/her employer about the firm's obligation to ensure the safety and health of employees in all aspects related to work to try to find a solution. So far, no Luxembourg jurisdiction has addressed this issue, but a Luxembourg trade union recently sent a letter to the Minister of Labor to implement a concrete "right to disconnect" in the Luxembourg Labor Code (Martin-avocats, 2018).

The Netherlands. In the Netherlands, the Dutch Labor Party wanted to add the right to disconnect into Dutch law. However, they are not part of the new coalition government, formed after elections in 2017. The party wants to give employees the right to be "unreachable" after a long day of work, for them to have quality time with their family and friends. Their plan was to compel employers with more than 50 workers to reach an agreement with trade unions and work councils about the right to disconnect. It would be very similar to the French model. It is not clear what, if anything, will be adopted in the future (Perquy, 2018).

South Korea. Over the last decade South Korea has increasingly addressed work-life balance (BBC, 2016). In 2010 officials at the South Korean Ministry of Health introduced a monthly Family Day, where the office lights were switched off at 7 p.m. to encourage staff to either spend more time with their families or procreate, in a bid to tackle the country's low birth rate. Additionally, organizations were encouraged to stop asking their staff to put in writing why their workers wanted to take annual leave. The Seoul Metropolitan Government has announced an ordinance recommending its supervisors not to give orders to subordinates via mobile messenger apps after work hours (Kim, 2017).

In 2016 hyper-wired South Korea (more than 80 per cent of South Koreans have smartphones—one of the highest percentages in the world) considered legislation that would restrict employers from contacting workers at home (CTV News, 2016). Cyberstress from round-the-clock orders from supervisors has become a growing social issue in South Korea, a country plagued by a mix of its notorious workaholic culture and advanced digital technology. The bill seeks to ban firms from sending employees work-related messages by telephone, text, social media or via mobile messaging apps after official working hours. Currently, the bill has been tabled but advocates are hopeful that it will be revisited soon.

Ireland. Although there is nothing on the Irish parliament's agenda similar to a right to disconnect law, Connolly (2017) sees the Irish Organisation of Working Time Act of 1997 (the "Act"; Organisation of Working Time Act, 1997) as providing a similar duty requiring employers to ensure workers take time away from the office and to ensure employees are afforded sufficient time for rest and relaxation. During these periods' employees should not be required to work, answer emails or participate on business-related calls. Interestingly, a business executive employed at a subsidiary of meat producer Kepak Convenience Foods Unlimited Company was awarded €7,500 by the Labour Court in 2018 after she successfully argued she was required to deal with out-of-hours work emails, some of which were after midnight and in excess of the 48 hours a week set out in the Act (McCulloch, 2018). In support of her complaint, the executive submitted copies of emails that she sent to, and/or received from, her employers both before normal start time and after normal finish time on numerous occasions over the course of her employment. The Act, it seems is being used to address current technology and incorporate language more in line with other nation's right to disconnect regulations.

Other governments. Other nations, while not actively pursuing right to disconnect legislation, have expressed concern with work-life balance issues and may consider employee right to disconnect options in the future. Consider the following:

Germany. Responding to the need for greater work-life balance, in 2013 the German labor ministry banned its managers from responding to emails after hours (absent an emergency). This policy was implemented to prevent job burnout and protect the mental health of employees (News 18, 2014). The guidelines state that ministry staff should not be penalized for switching off their mobiles or failing to pick up messages out of hours. Conscious of the risks for private life and professional burn-out, the national works councils were willing to agree with their employees on rules for the right to disconnect. In 2014 German Labor Minister Andrea Nahles called for an "anti-stress regulation" compelling companies to reduce stress in the workplace. It would also ban employers from contacting employees after hours, just as it is already forbidden to contact employees on vacation under German law (Nelson, 2014). Despite such initiatives, there is no regulation on the right to disconnect and Chancellor Angela Merkel has opposed such a law and appears to support a model in which German businesses are self-regulating and leading the way regarding enforced work-life regulation.

Japan. Japan's work culture is so intense, people in the 1970s invented a word, *karoshi*, that translates to "death by overwork," and involves employees committing suicide or suffering from heart failure and stroke because of long work hours (McCurry, 2017). Government statistics show that legal cases filed over *karoshi* soared to 1,456 in a12-month period that ended in March 2015. In comparison, a total of 1,576 cases were filed between 2004 and 2008. Because of such findings the government has more recently attempted to address this issue. Legislation went into effect in November 2014 that requires the national government to carry out measures to prevent suicides and deaths form overwork, although the rules are hampered by a lack of penalties for companies that fail to comply (Ryall, 2015). More recently, Tokyo's governor has ordered municipal employees to finish work by 8 p.m. and anyone still at their desks will be subjected to "strict monitoring" by overtime prevention teams. The move follows the suicide in December 2015 of a 25-year-old woman who worked 105 overtime hours over the course of a month. The employee was working at Dentsu, Japan's biggest advertising agency, which has since barred workers from logging more than 65 hours of overtime a month (down from 70). These incidents suggest that Japan may be predisposed to introduce right to disconnect regulations.

Spain. The Spanish government is considering moving the country's clocks back by one hour to bring Spain's working day, which can typically run from 9 a.m. until 8 p.m., into line with the rest of Europe. Few Spaniards now enjoy a siesta—which once characterized the long working day—as many live too far away from where they work to go home in the afternoon. Last month, Spain's employment minister Fátima Báñez announced a push to let Spaniards knock off at 6 p.m., rather than 8 p.m. "We want our workdays to finish at six o'clock and to achieve this we will work towards striking a deal with representatives from both companies and trade unions," she told parliament (Jones, 2016). Like Japan, Spain seems ripe for implementing statutes addressing after hours' legislation.

Overall, these examples clearly show that the world views the new "electronic leash" advanced by technological communication developments as a cultural pandemic. Finding a solution to the "always connected culture" will be critical for the health and happiness of employees. Additionally, there are significant organizational benefits that also could result from workers being able to disconnect. Hall (2017) noted that over the last decade, what has evolved in many countries is a culture of "busy." Busy often entails doing what can be easily tackled—the small things rather than thinking long term, strategizing, planning, and responding to truly important issues involving creativity. This is important since creativity research tells us that big ideas need incubation, time during which they can evolve (Ritter & Dijksterhuis, 2014). So, while disconnecting may be good for employees—it may likewise provide some remarkable benefits in terms of inventiveness and ingenuity to firms as well. Moreover, well rested and satisfied employees are also productive employees who may be more motivated and willing to invest greater effort to advance their firm's long-term interests.

Concerns about Legislating the Culture of Connectivity

Almost daily news reports indicate that today people in many nations are working longer hours, inseparably connected to their mobile devices, stressed, burned out, overworked, and experiencing increased levels of work-family conflict. Thus, there appears to be an increased awareness of the dangers of workplace technology. But the simplicity of some of these solutions—such as the absolute bans on after hours' email—do not do justice to the complexity of the problem. Where to strike the balance between work and life is an intensely personal decision that varies from one worker to the next. For some, technology can be a "leash." For others, it can be an important source of flexibility. Requiring all workers to "disconnect" in the same way could harm those who thrive the most in the digital workplace. For many, the option to work after hours has created much-needed flexibility *during* working hours. Recent research summarized by the Eurofound and the International Labour Office (2017) found that those who often work after hours are more likely to feel comfortable taking time off during the regular workday to handle personal or family matters. Also, it should be noted that there are times when disconnecting from work can cause stress, anxiety, and worry over unfinished business and the fear of missing out (FOMO). FOMO is "a pervasive apprehension that others might be having rewarding experiences from which one is absent … and is characterized by a desire to stay continually connected with what others are doing" (Przybylski, Murayama, DeHaan, & Gladwell, 2013, p. 1841). Against this background, measures that require workers to "disconnect" can be overly restrictive if they assume—as many of them do—a fixed work schedule. The risk is that, in attempting to abandon a 24/7/365 work culture, employers and employees will end up back in a rigid 9-to-5 structure (Usui, 2017).

The need to strike a balance between a modern technological world of immediate access and quick replies is being met with global concern because of the need to reduce employee stress, improve employee mental health, and create a better professional-personal balance. Research suggests that constantly working increases stress and has led companies, such as Google, to hire Mindfulness Officers to help employees unwind and clear their minds. Consequently, workers no longer having to sleep with their smartphone is probably a good thing (Perlow, 2012) and this has generated international interest in legislation directed toward limiting after hours' connectivity.

Some organizations, however, believe that *legislating* the right to disconnect may go too far (Stam, 2018). For many customer-driven businesses banning workers from accessing their inboxes or communicating with clients out of hours is not practical or realistic. Generally, firms are not fond of having additional governmental regulations that limit their autonomy while labor organizations are more inclined to support such initiatives. And so various governmental levels should anticipate disagreement and discord between these two constituencies when after hours' connectivity statutes are considered. Much of this clash will involve determining which workers are covered by such lawmaking. Some employees are legitimately required to be on call; for example, senior executives, key maintenance and IT workers, medical staff, and first responders. It makes little sense for such staff to be included in laws prohibiting communication after hours.

Should a right to disconnect law be implemented then organizations will have to develop policies in compliance with such a statute and supervisors and managers will have to be trained in its application. Particularly important in a thorough understanding of what constitutes working off the clock (UpCounsel, n. d.). Moreover, to avoid off the clock litigation firms may want to track the actual work of employees to ensure they comply with the work-time rules. There are many time tracking software programs and all emails and phone calls are time and date stamped. For example, Delve Analytics from Office 365 is a data analytics program that can track time spent writing and answering emails, including after hours work completed (Redmond, 2016). An audit of work productivity will indicate to the employer which employees are working after normal hours and provides information for supervisors to clarify for employees after hours work rules found in the firm's employee policy manual.

It is also important to note that when a new right or requirement is established, an agency must enforce it and a court must interpret it. This will undoubtedly lead to increased litigation. Questions about what a work day is especially for remote employees will have to be addressed. Complaints challenging each employer's definition of "emergency" will happen with greater frequency. Other legal concerns involve overtime payments to employees and issues related to on-call compensation (when an employee is not actually performing job duties but must be available to work if called upon). Even the idea of employees will have to be addressed and organizations may seek not to hire employees but to hire contract workers (individuals retained by a company for a predetermined time, for a predetermined price and for which a company is not responsible for providing a variety of traditional employer benefits) who many not be covered by such regulations. All this adds up to significant costs to implement and monitor right to disconnect legislation in organizations. In their efforts to strengthen the boundaries between work and life, regulators and employers should be careful not to over-determine those boundaries, and instead leave workers with the flexibility to strike that balance on their own. More than the right to disconnect, what workers need is the right to decide for themselves.

CONCLUSION

Technological advances over the past several years including laptops, smartphones, and widely-available wi-fi, have made it easier for people to get work done remotely. And while many appreciate the flexibility and increased productivity that these advancements provide, some lament that the ability to work anywhere, anytime has morphed into an expectation to work everywhere, all the time. Whether at home or in transit, employers are asking or requiring workers to complete assignments, tasks, and projects outside of working hours. This rapidly developing trend has tethered staff to their jobs well after the work day has ended and has resulted in a collapsing boundary between employees' work and personal life.

This circumstance is having a profound detrimental impact on employee privacy and autonomy, employee morale, safety and health, productivity, compensation, rest and leisure, and work-family conflict. To address this difficulty in escaping from work beyond certain hours, to restore the division between work life and personal life, and to recognize the right to disconnect from a constantly connected and networked work culture organizations through private adoption, and governments through legislative initiatives, are investigating how to deal with this phenomenon. Often, enforced work-life balance regulations, like the right to disconnect, are positioned as a human right and part of a larger movement addressing toxic workplace cultures and growing demands for better integration of work and family lives. Moreover, recent work by Unger, Niessen, Sonnentag, and Neff (2014) on time allocation between work and home domains stresses the importance of being allowed to freely allocate time to private life during evening hours. They advocate that employees should not have to feel guilty when they spent less time to work to meet family and relationship demands, because there will be also days that they allocate more time to work.

There appear to be two paradigms for addressing problems associated with enhanced communication technology involving connectivity and immediacy. One approach, which Secunda (2018) refers to as the

“French Legislative Model,” (p. 25) attempts to regulate after hours’ electronic communication between employer and employee through statutes and lawmaking. This approach has, by far, gained the most publicity. The second method, what Secunda (2018) refers to as the “German Self-Regularity Model,” (p. 26) involves voluntary self-determination in which private firms adopt policies that fit their individual or industrial needs. This tactic comes from the belief that any government action is a legislative overstep. These employers seek to balance the interests of their employees with their own industrial needs in a manner more appropriate than what legislative enactments alone could formulate through independent workplace regulation. Regardless of which option is followed, many believe that something must be done to address this problematic issue.

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Emerging Technologies and Cyber Risk: How do we secure the Internet of Things (IoT) environment?

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Cloud computing and the Internet of Things (IoT) have transformed businesses, enabling agile and cost-effective IT infrastructure. The challenge is that these new opportunities create a co-mingled architecture which is difficult to secure. The complexity of this architecture is magnified with the IoT. Based on interviews with executive leadership teams and boards of directors facing these new environments, we developed the over-arching research question: How do we secure increasingly dynamic architecture in an environment while supporting and creating agile business growth? We then narrowed this down to more specific questions dealt with in this study. The research involved an in-depth exploration of this problem using a survey instrument and multiple qualitative methods involving business leaders from 59 companies between 2017 – 2018. Based on this analysis, we developed an information security framework for executives in this new environment that builds on previous work. This framework is called the Extended Risk-Based Approach and provides businesses with an approach for securing an enterprise amidst the IoT and agile architecture. Importantly, the data analyzed suggests that this approach is critically needed to address the rapidly growing complexity of enterprise architecture and the digital world we live and work.

INTRODUCTION

As the Internet of things (IoT) becomes integrated into firms' go to market strategy to support the business, it is critical for executives, IT specialists, and Cyber Security practitioners to understand how IoT impacts their cyber risk. IoT solutions introduce threats to corporate data and systems that have not been considered before. Therefore, it is essential that executives, board members and business leaders be aware of the security risks with IoT solutions as well as how to address them.

A number of widely publicized attacks (Ranger 2017) have left business leaders with the impression that the IoT is less secure than existing enterprise architecture. What often goes unmentioned is that most attacks originate because of failures to implement basic protections. Companies often implement new technologies for business growth without taking a pro-active risk-based approach as part of a cyber-security posture.

Another challenge is that IoT-enabled devices (particularly industrial IoT) are typically deployed in high traffic areas such as the factory floor, public thoroughfares, stores, vehicles, offices, or homes. That means that they are often physically accessible by employees and even the general public. If we compare that to modern cloud data-centers, where access is severely restricted, there is a significant vulnerability difference even from a physical access perspective. More people with access increases the risk of compromise, so it is critical to evaluate risk accordingly.

Just as in the case of any technology deployment, these obstacles are surmountable. The question is really *how* to *proactively* implement security measures. This may not require a new approach to cyber security or risk but instead that practitioners build on an existing foundation. Therefore, the primary research questions for this investigation were: Have there been changes in the adoption of a risk-based approach? What level of executive oversight is involved and how does this impact budgeting? Is there a new framework that needs to be applied and what would this look like? What thematic recommendations are there for securing IoT?

Previous research in this area resulted in the development of the Risk-Based Approach. The high-level security framework used for this study was developed and validated with Fortune 500 companies and is referred to as the Information Security Maturity Model (Figure 1) with the final column being the Risk-Based Approach (Griffy-Brown, et. al. 2016).

FIGURE 1
THE INFORMATION SECURITY MATURITY MODEL

Source: Griffy-Brown, Lazarikos, and Chun 2016

This model explains that over time companies can move from a reactive state in information security to a proactive state. The first column, called "Blocking and Tackling" refers to a completely reactive environment. In this environment, there is often a lack of support, underfunding, lack of staff and lack of metrics for understanding what is happening with respect to information security. The next column, called "Compliance Driven", refers to a corporate environment in which a control-based approach is taken but this is driven by audit and regulation rather than positioning for emerging threats. The final column called "the Risk Based Approach" refers to companies which are using big data and behavioral analytics and linking events across disciplines to understand and position themselves for potential threats. In this approach, businesses have a risk framework in place, and are using dynamic controls, metrics and processes aligned with the business.

The current research first will identify what emerging technologies the companies examined are presently working with in order to provide a context for IoT. Then we will look at whether a Risk-Based

Approach is currently a part of the budgeting process and if executive oversight is now required. Finally, based on focus group discussions with business leaders and decision-makers, we will present the Extended Risk-Based Approach developed for IoT based on these discussions. Using these results, critical considerations moving forward are presented in order to advance our understanding and ability to position business for agile growth while addressing information security challenges such as IoT.

The structure of this paper develops the logic above. The next section will identify gaps in the literature and present theories that might help us holistically understand the IoT cyber risk challenge and support agile business growth. Following this, the results of the survey instrument will be presented addressing the first two research questions. The final section will explain solutions for executives and IT practitioners and expand the meaning of this research in terms of scholarly theory and further exploration. Based on this analysis, companies can similarly use the security framework presented as a tool for advancing further real-world solutions to address IoT security challenges. Scholars can begin to apply systems dynamics theory and develop greater insight and tools.

GAPS IN THE LITERATURE AND PROPOSED THEORY

The cyber security literature research primarily focusses on requirements and solutions for requirements (Honer 2013). In this regard, research on Attack/Harm Detection is prolific (Chonka and Abawajy 2012; Chonka et. al. 2011; Monfared and Jaatun 2011). Non-repudiation is widely discussed and cited (Nishikawa et. al. 2012; Kumar and Sburamanian 2011; Chou et. al. 2011) and Security Auditing has been deeply explored (Deshmukh et. al. 2012; Gul et. al. 2011; Munoz et. al. 2012). By far the most researched topics are privacy, confidentiality, access and control (Chen et. al. 2013; Cho and Lee 2012; Llanchezhian et. al. 2012; Elham and Lebbat 2012; Zhu and Wen 2012). In his extensive literature review of the information security scholarship over the last decade, (Honer 2012) identifies these areas as the topics most scholars are examining. However, in the applied business world, these issues are never dealt with in isolation and there is a need for broader thinking given the new agile architecture more companies are using.

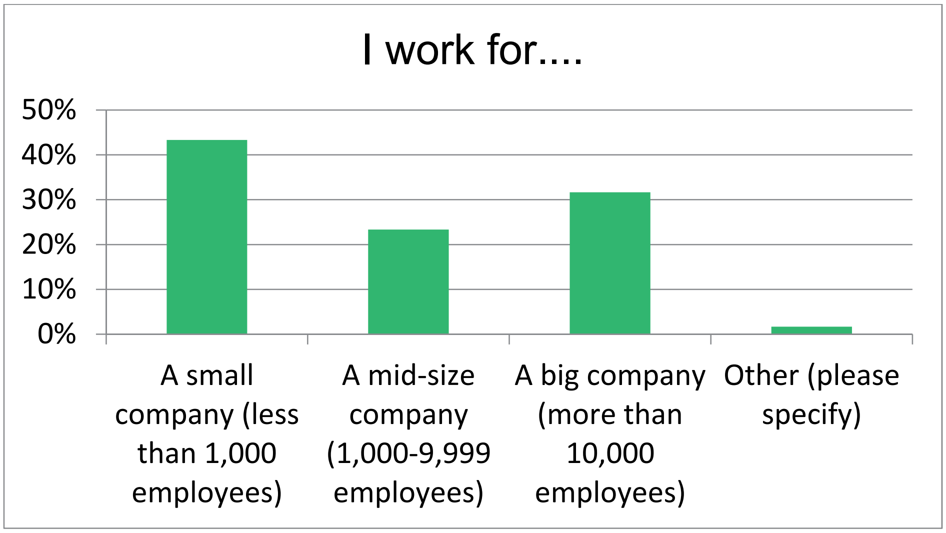
An overarching theory is required to enable scholars and practitioners to think about and address the security challenge from a holistic perspective (Ryan and Watson 2017). Methodologically, researchers have recommended three potential theoretical approaches including Game Theory (Chen et. al. 2011), Fuzzy systems theory (Wang et. al. 2016) and Graph Theory (Yao et. al. 2013) to address IoT security. Unfortunately, these approaches are tools that could be used within a system to identify and possibly address vulnerabilities but not a holistic theoretical framework to shape thinking. Two theories that show promise are General Systems Theory (GST) and Systems Dynamics (SD) Theory. GST is based on biological systems and is used across disciplines to describe systems that exhibit unpredictable behavior occurring as a result of non-linear spatio-temporal interaction among sub-systems (Von Bertalanffy 1968). Systems Dynamics models systems behavior based largely on the time-trajectory of system variables (Forrester 2007).

This research will seek to see which theoretical approach resonates more with business leaders and business processes. The next step beyond theoretical evaluation is identifying an applied framework for businesses that connects with theory and to design a quantitative evaluation. Through the research questions and case methodology we initially explore a systematic applied approach to scaling, particularly a mixed legacy, virtual and third party eco-system that is continuing to build-out using emerging technologies. The theory can inform the design of the applied approach. This research fills a much needed gap building on work published regarding the Risk-Based Approach (Griffy-Brown et. al. 2016). It also provides an evolving theory and framework for exploring and securing this new dynamically developing environment.

METHODOLOGY

The data collection strategy used in this investigation first involved the collection of empirical data collected from 59 firms across 12 industry verticals and including small businesses as well as large businesses (Figure 2). From these firms executives and business leaders were asked for interviews.

FIGURE 2
SIZE OF BUSINESS SURVEYED



In addition, the business leaders who responded were from across the organization but had high-level responsibilities within their organizations (Figure 3).

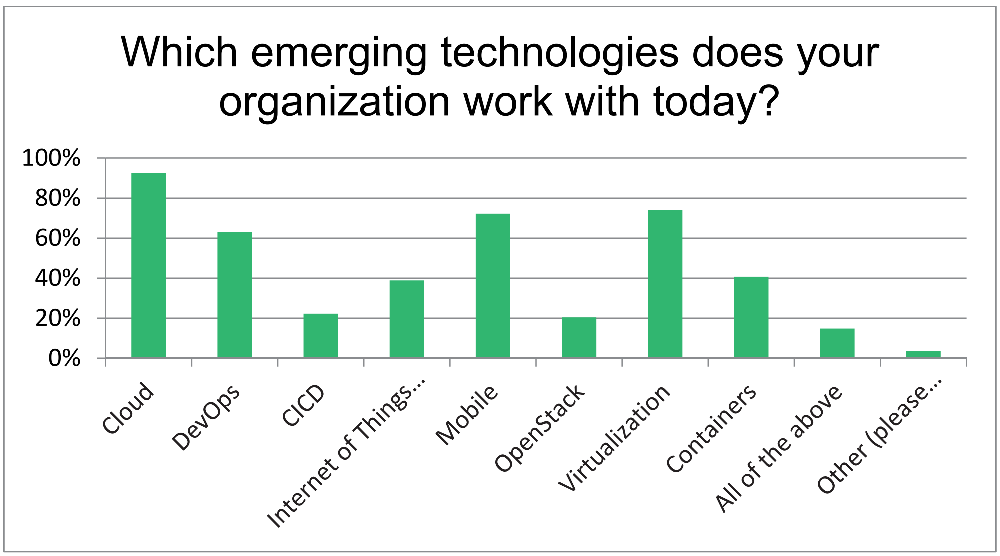
FIGURE 3
DECISION-MAKING LEVEL OF RESPONDENTS

The second data collection technique used was qualitative and is known as triangulation. This involved multiple methods for collecting historical and longitudinal data (Yin 1994; Strauss and Corbin 2015). Multiple sources of data such as participant observation, open / structured interviews were collected through structured and semi-structured interviews with business leaders from August 1, 2017 to January 1, 2018. Coding included highlighting issues that appeared more than 8 times in the interviews as part of the construct and to develop the framework for analysis as well as the recommended solutions. The qualitative methodology employed helped this research to gain an understanding of the business leader's perceptions and concrete solutions. It also enabled us to identify the key common problems, and to understand how to address these problems through dynamic and agile methods. The names of organizations have been kept confidential and anonymized in the reporting of the results, particularly given the sensitivity of the information security area.

RESULTS – EMERGING TECHNOLOGIES AND USE OF THE RISK-BASED APPROACH

The survey revealed that IoT is an emerging technology with deployment across different firms regardless of size. It also revealed that cloud, virtualization, development operations, and mobile are all very much still at the forefront of enterprise architecture considerations (Figure 4).

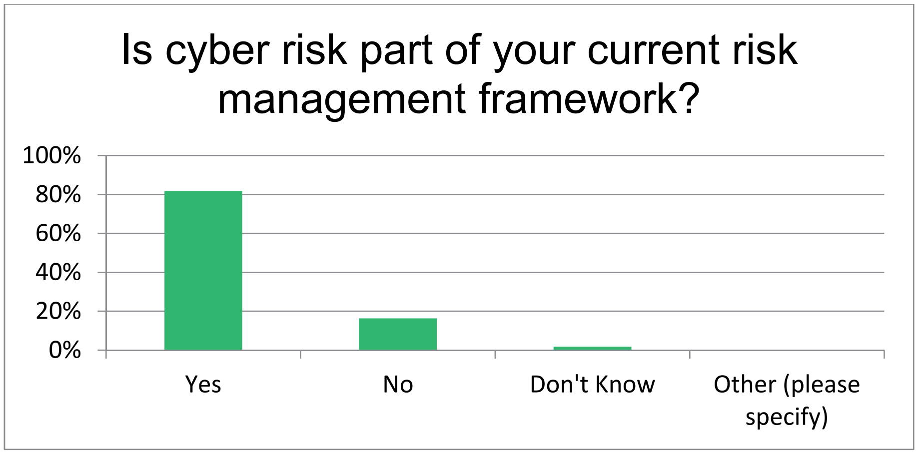
FIGURE 4
THE EMERGING TECHNOLOGIES FIRMS ARE WORKING WITH CURRENTLY



That being said, 39% of the companies surveyed were working with IoT. As enterprise architecture, driven by increasing needs for agility, continues to evolve with these emerging technologies all interwoven, it becomes important to understand how to secure this dynamically changing environment [2]. The question is: Does this involve the Risk-Based Approach?

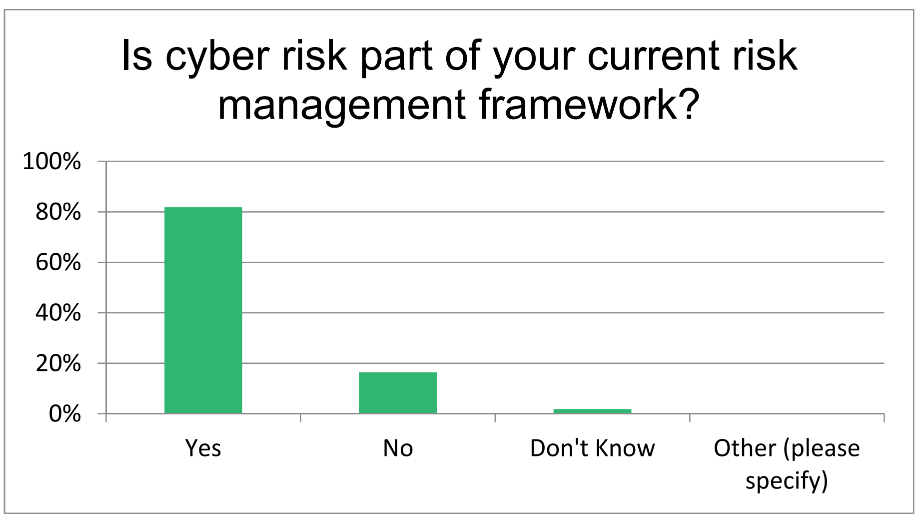
Surprisingly, 80% of the companies surveyed indicated that the Risk-Based Approach was now a part of their budgeting process (Figure 5). This is a significant change from 2016 when 40% of companies surveyed used the Risk-Based Approach and the vast majority were simply compliance driven [2].

FIGURE 5
CYBER RISK AS PART OF THE MANAGEMENT FRAMEWORK



What is even more significant is the elevation of cyber risk to the board level (Figure 6). Nearly 65% of the respondents replied that the board was involved in their cyber security oversight.

FIGURE 6
BOARD OVERSIGHT FOR CYBER SECURITY



Given these changes in oversight, the growth of cyber risk as part of the management process, and the continued growth of agile architecture including IoT, is a different security approach called for?

THE EXTENDED RISK-BASED APPROACH FOR IOT

Executives and business leaders were presented with the foundations of GST and SDT to consider and asked which best described IoT and could provide insight into how to address security? Universally, GST, which describes concepts largely from an organismic biological perspective, was too abstract. Systems Dynamics Theory, with a focus on modelling relationships between various systems, was viewed as more applicable to this problem and current business processes. IoT was envisioned by leadership as less of an "ecosystem" than a "system of systems". Furthermore, decision-makers felt SD could be modelled at different levels. The uppermost level would be the IoT core infrastructure. The next level would be individual application areas such as healthcare, energy, or industrial IoT. At the lowest level, SD would model IoT agile or waterfall project management optimizing these business processes. Given the existing SD modelling of agile software development, connecting the theory to a Risk-Based Approach was a natural leap in business thinking.

Building on this theoretical understanding, the executives and business leaders who were a part of the qualitative research felt that an entirely new approach was not required, but instead an extension of the risk-based approach was suggested. This was important because of the rapid change in emerging technologies which were being incorporated and then exiting the architectural landscape. Therefore, an approach which would extend risk beyond project development throughout the device life-cycle was suggested. The Extended Risk-Based Approach which resulted is demonstrated in Figure 7.

FIGURE 7
EXTENDED RISK-BASED APPROACH: SECURING EVERY DEVICE THROUGHOUT ITS LIFE-CYCLE

In this framework, in addition to the Risk-Based Approach described in earlier research, every device would follow a process for risk evaluation throughout its life-cycle. This would be linked to budgeting and the ongoing security posture of the firm. This Extended Risk-Based Approach would create a risk eco-system as enterprise architecture develops. The advantage is that budgets are built with life-cycle risk in mind as well as the interaction of cyber risk exposures in an ecosystem. This would be coupled with and amplify the user-behavior analytics and cross-discipline monitoring which is part of the original approach. Furthermore, this approach builds on the SD theory, potentially incorporating risk into the modelling of the relationships all three levels described earlier.

From these discussions, themes emerged, and the following recommendations for securing IoT were developed:

1. **Take an Extended Risk-Based Approach**: As discussed, cyber-security best practices follow a risk-based approach that considers both the ease of an attack and the impact when one happens. What is required is an end-to-end risk evaluation through the device life-cycle coupled with proactively building risk into budgeting.
2. **Be Data-centric**: IoT data is characteristically heterogeneous, often introduces inaccuracy, is massively real-time, and introduces semantic issues. Data indexing and protection must be

considered with respect to national and international regulations at each stage of project development. Methods for sampling continuous data and querying semi-structured data will need to be developed and deployed. Limiting, segmenting, or isolating the IoT devices that connect to each other can assist in analytics and limit the damage should a breach occur. This can also be addressed by maintaining control over the business IoT infrastructure. The risk is owned by an individual business unless it is intentionally transferred. This starts with device selection so make sure that devices have the security features needed and, even more importantly, that the data can be analyzed by the company that owns the risk.

3. **Don't forget the basics:** Always leverage existing expertise and processes applying proven security technologies, tools, and best practices already known and used extensively. This includes the evaluation of risk that businesses in this study are already using to budget for cyber-attacks. In many cases, existing processes and tools can be implemented directly. Companies can restrict what IoT devices can do and what they communicate with, they can add encryption, and add monitoring mechanisms. This doesn't mean that in some cases, such as micro-controllers and low-power networks, businesses won't need to apply new techniques. They will. However, it is essential firms build on existing principles and concepts. Cyber security is not just a technology problem but a people, process and risk problem.

IoT adoption is still emerging as evidenced by the data presented in this research. Therefore, there aren't many established standards yet even as the number of devices brought to market is quickly rising. Given that these standards are emerging, tracking and adhering to standards developed by ISO, IEEE, ITU and others, as they evolve, is also critical. As a result of these emerging systems dynamics, there is a strong need for adopters to carefully plan and build in security throughout the life-cycle of a device as indicated by the Extended Risk-Based Approach presented here.

CONCLUSION

This research explored the further development of agile architecture with IoT and the implications for cyber security. In particular, the focus was on examining what is happening in business to provide a practical approach for business leaders to follow in securing this new interconnected digital landscape. This work identified the need for a holistic theoretical approach that resonated with business practice. Decision-makers felt that Systems Dynamics Theory would be more helpful than General Systems Theory and that it connected well with the Risk-Based Approach. Furthermore, future empirical work should be designed and tested to validate and describe this connection. The quantitative results showed that more businesses are taking a Risk-Based Approach with greater oversight coming from the board level. It also showed that IoT was still in the early stages of deployment. The qualitative research built on these results to develop an extended approach through conversations with business leaders that would help companies continue to meet the challenges of cyber-security with IoT. The Extended Risk-Based Approach, now added to business portfolios, was coupled with some very specific recommendations from business leaders. Ultimately, addressing cyber security requires both process and leadership as businesses continue to strategically adopt emerging technologies.

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Business Failure Prediction: A Tri-dimensional Approach

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Investigations of corporate failure prediction research usually implement binary classification into one of the distinguished groups – Distress or non-Distress companies. This study looks at a tri-dimensional approach which cluster firms into three (3) distinct dimensions namely - non-distress, semi-distressed and distressed. The study used secondary data from 2011 to 2015 obtained from the Ghana Stock Exchange (GSE) spanning across six industries, namely, Banking & Finance, Distribution, Food & Beverage, Insurance, Manufacturing and Mining & Oil. The study initially adopted the Altman (1968) Z score bankruptcy model to classify companies into non-distress, semi-distressed and distressed. Further analysis was conducted using the Hierarchical agglomerative cluster analysis to cluster companies into non-distress, semi-distressed and distressed. A comparison was then made between the Hierarchical agglomerative clustering against the Altman (1968) Z score bankruptcy classification to obtain higher classification. The outcome of the analysis revealed that the Hierarchical agglomerative cluster analysis and the Altman (1968) Z score bankruptcy model can both be used to classify companies into non-distress, semi-distressed and distressed based on the tri-dimensional approach instead of the binary classification (distressed and non-distressed). The study recommends that future research can explore other clustering methods for bankruptcy prediction to achieve higher and better classification.

INTRODUCTION

Investigations of corporate failure prediction research usually implement binary classification of companies into one of two distinct groups – distress or non-distress companies (Altman 1983; Ballantine, Cleveland & Koeller, 1992; D'Aveni, 1989; Dugan & Zavgren, 1989; Koh & Killough, 1990; Pech & Alistair 1993; Shumway, 2001; Chava & Jarrow, 2004; Bunyaminu & Issah, 2012; Bunyaminu & Bashiru, 2014; Bunyaminu, 2015; Gavurova, Packova, Misankova & Smrcka, 2017). Using this dichotomous approach (Taffler, 1983; Storey et al., 1987; Neophytou et al., 2000), there is a possibility of misclassification. Different from the previous studies, this study adopts a tri-dimensional approach to cluster firms into three (3) distinct groups, namely - non-distress, semi-distressed and distressed.

Using various statistical techniques, business failure prediction models attempt to estimate the bankruptcy probability of a firm using a set of covariates such as financial ratios, market-related variables, or non-financial variables. Some of the researchers in this field point out that the causes for distress are mostly external (exogenous), rather than internal (endogenous, or caused by mismanagement) and others argue that various industries could exhibit characteristics involving high grades of failure.

DEVELOPMENT OF FAILURE PREDICTION MODELS AND SUBSEQUENT REFINEMENTS

Prior to the development of business failure prediction models or techniques, agencies such as Dun and Bradstreet were established to supply a qualitative type of information assessing the credit-worthiness of particular merchants (Altman, 1968). However, business failure prediction became a subject of formal quantitative analysis since 1932 when Fitzpatrick (1932) compared ratios of successful industrial enterprises with those of failed firms and these were matched according to date, size and industry. Consequently, the development of corporate failure models started with univariate analysis, pioneered by Beaver (1966).

Beaver (1966) applied financial ratios and each ratio was classified separately. A percentage of misclassification (failed or non-failed) was minimized as a result of the identification of an optimal cut-off point, misclassification could either be a Type I error (classifying a failing firm as non-failing), or Type II error (classifying a non-failing firm as failing). Beaver's approach explored 79 failed and 79 non-failed companies between 1954 and 1964. The study examined the predictive power of 30 ratios when applied five years prior to failure. Beaver (1966) identified that the most significant ratio in predicting failure is 'Cash flow to total debt' ratio with 78% success rate for five years before failing. Each failed company was matched with a non-failed company in terms of size and industry.

Even though Beaver's univariate approach was simple and serves as a platform for further research and development of corporate failure prediction models, there are a number of potential problems. It could be argued that Beaver's company classification was based on a single financial ratio at the time and the classification result for different ratios used on the same company could be confusing and misleading (Poque, 2008).

Altman (1968) considered that the adoption of univariate results for assessing bankruptcy potential of a firm is both theoretically and practically questionable and that ratio analysis presented in univariate fashion is susceptible to faulty interpretation and potentially confusing. To correct these deficiencies in univariate models, Altman (1968) came out with a multivariate analytical method; Multiple Discriminant Analysis (MDA) in 1968. Altman (1968) conducted his research on 33 bankrupt companies and 33 non-bankrupt companies during the period 1946 to 1965 and a total of 22 ratios were identified from 5 different categories: Profitability; Liquidity; Leverage; Solvency and Activity. According to Altman's original Z-score model, a company is considered relatively safe when its Z-score exceed 2.99; Companies with Z-scores of less than 1.8 would be considered as potential failures. Until 1980's discriminant analysis was the dominant method in failure prediction. However, it suffered from the normality assumption test, particularly for the failing firms.

Despite these limitations, researchers seem to turn deaf ear and continued to advance Altman's model, hoping to achieve higher classification accuracy. Some of the studies that have sought to advance Altman's model include: application of prior probability membership classes (Deakin, 1972); using appropriate 'quadratic classifier' (Altman, Haldeman & Narayanan, 1977); use of cash flow based models (Gentry, Newbold & Whitford, 1987); application of quarterly financial statement information (Baldwin & Glezen, 1992) and analysis of the use of current cost information (Aly, Barlow & Jones, 1992; Keasy & Watson, 1986). Nonetheless, none of these studies have been able to achieve higher statistically significant results than Altman's earlier work. Furthermore, in most cases, these models appeared so complex and difficult to apply in real life applications.

Due to the well-documented restrictions of the linear discriminant analysis approach, Ohlson (1980) employed logistic regression to predict company failure, a technique that evades some of the problems of the MDA approach. Since then, logistic regression has been extensively used for the development of bankruptcy models. Extensions to Ohlson's study include, among others, the following: (a) the investigation of the effect of industry-related ratios on the likelihood of corporate failure (Platt & Platt, 1990); (b) the attempt to discriminate between firms in financial distress and failed firms (Gilbert et al., 1990); (c) the development of industry-specific models (Platt et al., 1994); (d) the adoption of a multinomial logit approach to reduce misclassification error by adding, to the outcome space used to predict bankruptcy, a 'weak' state of financial distress (Johnsen & Melicher,1994) multicriteria decision aid methodology (Zopounidis & Doumpos, 1999); (e) a comparative predictive power of MDA and logistic Regression model using UK's listed companies (Bunyaminu & Issah, 2012) and (f) the use of Generalized linear modeling (GLM) to solve the problem of normality assumption test to predict business failure (Bunyaminu & Bashiru, 2014).

To avoid the deficiencies of the traditional normality prone approaches in corporate failure prediction, there is an urgent need to model non-linearities using Generalised Linear Models instead of single-period static models (Shumway, 2001; Chava & Jarrow, 2004; Hillegeist et al., 2004). The GLM are considered to be broader in scope in the sense that they apply to all industry sectors; Financial and non-financial institutions to handle non-linear modelling and evaluate the forecast performance based on static and non-linearity (Bunyaminu & Bashiru, 2014).

Types of Business Failure

Type 1

This is a type of business failure that mostly occurs to newly established firms or small companies. Failure of this kind indicates that performance never arose above poor before it sank. These companies mostly collapse within five years of its establishment. This type of failure mostly does not attract attention. The company is mostly characterized by lack of managerial expertise since it may have only one manager. It may have limited financial system such as budget, cost system to carefully examine revenue, cost and make financial reports. This deficiency could make the owner overestimate the revenue or underestimate cost leading to more financial distress. They may, as a result of insufficient funds, obtain loans or launch big projects with the intention of raising funds but mostly they begin life with serious defects.

Type 2

With this type of corporate failure, it occurs to young companies that have survived longer than the type one companies. This type of companies' performances shoots upwards till it reaches its apex or maximum then dwindles. These firms face a similar managerial handicap as the type one companies but they diversify their operations thereby increasing their sales. As the sales increase, it brings about new capital resources which are readily available for trading. Since the company is known and in the public eye, the company will attempt various strategies that will help them succeed. The company therefore sells more (mostly on credit) and borrow more to fund their operations. Their sales grow rapidly but with no profit to matchup. This deters banks from giving further credit to the business for its operations. This will have a negative impact on the companies hence halting their operations. The collapse of these companies occur swiftly and no creative accounting could save the company from collapse.

Type 3

This type of failure affects companies that are mature and have been in existence for years. These businesses before failure experience a slow start, rapid buildup, then an indefinite period of stable 'good to excellent' performance (S-curve). They have high turnovers, good profit margins and low gearing rates. These companies have much more complex operations. This failure is about 20%-30% of all business failures. They may have experienced defects in their management structure in the form of a non-participating management board and defects in their accounting information system which might not have been quickly resolved (Mofokeng, 2012).

Causes of Business Failure

Failure is a phenomenon every individual or entity would wish to avoid completely but this threat is inevitable if situations are not analyzed and monitored. The distress and fall of businesses are as a result of many factors. Firstly, companies would fail as a result of inadequate financing and poor financial planning. Businesses need cash flow to float them through sales and the natural flow of business. Funds for business operation may be obtained internally through contributions or externally through the floating of shares and taking loan advances.

In sourcing for funds from financial institutions, companies face the problem of competing with the government for loans. The financial institutions would prefer to extend credit to the government since they view the government to be of no risk when it comes to loan repayment as compared to the companies. If the companies are able to get these credit facilities, they may have to pay a much higher interest rate on the loans. This problem worsens when the company also suffers poor cash flow management. Where the company fails to properly manage its inflows and outflows, getting sufficient money from banks will be of little benefit to business growth.

Secondly, businesses fail due to the lack of proper management and leadership. Management of a business entails a number of activities which include planning, organizing, controlling, directing and communication. There is said to be poor management of the company when the owners of the firm fail to recognize their shortfalls and seek help followed by insufficient relevant business experience. Business failure can be attributed to the problem of wrong delegation and hiring the wrong people for the right job. Poor leadership is also a contributing factor to the failure of businesses. Leadership is a key component of management. Businesses run down as a result of insufficient leadership skills and techniques to coordinate and synchronize the activities of the employees.

Also, some companies fail as a result of poor marketing strategies. It is essential to provide the necessary information and product idea to the customers. Businesses are at risk of failure when they apply the wrong marketing strategy towards a particular product and target market.

Finally, businesses fail as a result of fraudulent activities. Some of the businesses suffer some fraudulent acts such as mismanagement and embezzlement of funds, illegal fund transfers etc. These acts can wear out the financial stability of the company, reducing their cash holding and making it difficult for the firm to run its normal business operations.

Theories on Business Failure

For the purpose of this research, the researchers adopted two (2) theories. These include:

1. Lussier's theory and
2. Life cycle theory

Lussier's Theory

Preceding success and failure model studies have been conducted by Carter and Van Auken (2006) and Cooper et al. (1990). The Lussier (1995) model was selected to be used in this study for the following reasons. Lussier's model was the most extensive because the study examined the efficacy of 15 variables identified from 20 prior studies. The Lussier (1995) model has been published in more journals (Lussier 1995; 1996a, 1996b; Lussier & Corman, 1996; Lussier & Pfeifer, 2000) and has been used to predict success and failure cross-nationally in the USA (Lussier, 1995), Croatia (Lussier & Pfeifer, 2001), and in Chile (Lussier & Halabi, 2010). The Lussier model includes human capital variables—industry experience, management experience, and education. It is designed to determine which variables are more and less important to success and failure. Thus, the Lussier (1995) model was selected for the purpose of this research.

Lussier (1995) researched the literature to better understand why some businesses succeeded and others failed. To be included in the Lussier (1995) S/F model, a variable had to have been included in a study that had at least three variables identified as contributing factors to success and failure. Fifteen variables were identified in the literature and for each of the variables a hypothesis was developed to explain the relationship between the independent variable and the dependent variable performance—success vs. failure.

Life Cycle Theory

The stage model or life cycle theory of the firm originates in economics literature (Penrose, 1952, 1959; Rostow, 1960), and is used to describe the progression of the successful firm through growth phases. A biological analogy is sometimes used to describe "the cyclical quality of organizational existence. Organizations are born, grow, and decline. Sometimes they reawaken, sometimes they disappear" (Kimberly & Miles, 1980). The life cycle model describes the development and progression of the firm as a linear sequential process through a number of stages. Numerous stage models have been developed in the management and organizational studies literature (d'Amboise & Muldowney, 1988; Poutziouris, 2003), although the number of stages is not standardized (Lester et al., 2008). For example, Steinmetz (1969) proposes a model based on three phases of growth, whilst Lester et al. (2008) propose a five-stage model of organizational growth and development. In deriving taxonomy of growth stages for high-technology organizations, Hanks et al. (1994) identify common developmental stages based on the comparison of a number of stage models, namely start-up, expansion, maturity, diversification, and decline. Specifying age categories for each developmental stage in a universal life cycle model is difficult because of intra industry differences. Attempts to assign specific age groups thus tend to be confined to particular sectors (Hanks et al., 1994). Similar to the stage model developed in the organizational studies literature, the financial life cycle theory models firm resourcing across a number of development stages. Presented as a descriptive concept in early textbooks (Weston & Brigham, 1978), it outlines sources of finance typically available at various growth stages of the firm, along with potential financing problems that may arise at each stage. The financial life cycle model incorporates elements of trade-off, agency (Jensen & Meckling, 1976), and pecking order theories (Myers, 1984; Myers & Majluf, 1984), and describes sources of finance typically advanced by funders at each stage of a firm's development. The commonly held view is that nascent and start-up firms have difficulty accessing external finance, as this is when problems related to information opacity are most severe (Huyghebaert & Van De Gucht, 2007). The most important sources of finance at this stage are personal savings of the firm owner, and finance from friends and family (Ullah & Taylor, 2007). These informal sources of equity exceed venture finance as the main source of capital for start-up companies, even in the US which is considered the most advanced economy in the world in the provision of venture capital (Bygrave & Quill, 2007). The contribution of the firm owner in nascent firms is not confined to equity, but commonly includes the provision of quasi-equity in the form of personal assets used as collateral to secure business debt (Basu & Parker, 2001). Whilst a firm may obtain sufficient capital to initiate trading, a lack of planning may lead to problems of under-capitalization in the earliest stages. In extreme cases, particularly in the face of competition, the firm may not be able to continue in business (Cressy, 2006). As successful firms survive nascent and start-up phases and matures through growth stages, personal funding becomes relatively less important as investment finance is increasingly sourced from retained profits.

Furthermore, accumulation of a trading history facilitates access to increased sources and amounts of external financing, particularly bank finance and trade credit. Rapidly expanding firms lacking adequate working capital to meet increased costs may experience liquidity problems at this stage (Bates & Bell, 1968). Firms faced with the problem of overtrading often seek to alleviate these liquidity problems by increasing their overdraft facility. Thus, it is common for SMEs to have high levels of short-term debt (Ray & Hutchinson, 1983; Michaelas et al., 1999). Short-term debt is neither sufficient nor appropriate for firms requiring large amounts of additional external finance for investment; however, these requirements are more suitably fulfilled by long-term debt, or by raising external equity through a private placement or an initial public offering of common stock. Firms requiring large amounts of external equity are characterized by the pursuit of a high growth strategy, and may be involved in the development of products or services based on new technology (Ullah & Taylor, 2007). A consequence of the sale of firm equity for the owner is loss of control and managerial independence, although a number of authors indicate that this outcome may be compatible with the firm owner's goals (Berggren et al., 2000; Hogan

& Hutson, 2005). On reaching maturity, firms have acquired a trading history, and typically have access to a broad range of resources. Sources of finance accessed at this stage are generally determined by preferences of firm owners, rather than supply side restrictions. The life cycle theory has been applied to predict a probable path of firm development. They have been used to suggest managerial skills, knowledge, attitudes (Lippett & Schmidt, 1967; priorities (Smith, Mitchell & Summer, 1985); efficient ways of problem solving (Lyden, 1975); provide a model for small business growth (Scott & Bruce 1987); identify internal (Churchill & Lewis, 1983) and external (Quinn & Cameron, 1983) factors of success and failure for business. The role of innovation and entrepreneurial activity has been analyzed in the early stage of firm development by Kimberly (1979) using this framework. The life cycle phenomenon has been found meaningful by SME owner managers and evidence has been provided for the sequential nature of life cycles (Lester et al., 2008).

Empirical Review

Various concepts of failure have been reviewed in previous studies but the design for the research adopted failure as defined in the UK Insolvency Act 1986 which states that an insolvent company is a company with inability to pay debts when they fall due or the value of its assets is less than liabilities taking into accounts its contingent liabilities and prospective liabilities. The Act further outlined five courses of action for companies to follow if they end up insolvent and these are: administration, company voluntary arrangement, receivership, liquidation and dissolution. Failed companies in this study were considered from this point of view. Receivership which is a type of bail out was not considered since none of the companies benefited from such government facilities.

Beaver (1966), one of the pioneers of quantitative models, studied corporate failure using financial ratios. He explored 79 failed and 79 non-failed companies between 1954 and 1964. He based his prediction using 30 ratios and these ratios were applied five years prior to failure. He concluded that the significant ratio for predicting failure was cash flow to total debt ratio with a definite success precision of 78%.

Altman (1968) developed the multivariate discriminant model with the aim of solving some of the deficiencies of the univariate system. In this investigation, he matched 33 failed and non-failed companies within the years of 1946 and 1965, using a combination of ratios into one score to determine the financial stability of the firm. He concluded that a higher z-score meant a higher or better financial health and a lower z-score indicated poor financial health (Altman, 1968).

Neophytou and Molinero (2004) in their study applied the multidimensional scaling (MDS) to predict corporate failure. The technique has a link with factor analysis (component analysis). This technique is superior to others because it is easy to understand by new users. Its robust nature makes it more convincing. They concluded that the MDS results showed that both failed and non-failed firms fail in some clearly distinct areas.

Andreica (2009) in her study applied the CHAID model, the logit and hazard model and the artificial neural network model in predicting the probability of bankruptcy of a set of distressed and non-distressed firms from 2006 to 2008. She concluded that the profitability ratios were the best predictors of bankruptcy. The second set of her three-year cumulative data highlighted solvency ratio as an indicator of bankruptcy with a precision of 96.7%.

Appiah (2011) examined business failure in a developing economy. He examined business failure on listed companies on the Ghana Stock Exchange. He applied the Altman Z-score model on a sample of 15 failed and non-failed companies from the year 2004 to 2005. He presented that corporate failure cannot be predicted using the Altman model due to the high type II errors.

In a study using Altman's Z-score, Mohammed (2016) showed that current ratio, retained earnings to total asset, earnings before interest and taxes to total assets and book value of equity to total liabilities can be used to successfully predict failures.

In his article in Interdisciplinary Journal of Contemporary Research in Business, Orabi (2014) studied and tested the effectiveness of financial failure prediction models on forecasting the failure of public shareholding companies. He tested and compared the Altman model and the Sherrod model to ten shareholding companies listed on the ASE. He concluded that the Altman is a better reflector to screen out successful companies from failing ones.

Bunyaminu and Bashiru (2014) examined a combination of quantitative and qualitative models to predict business failure with an appreciable degree of accuracy and precision. They asserted that failed firms face inability to settle debts, have weak finance directors and possess low profitability.

Bunyaminu (2015) explored business prediction models. He made an empirical study of business failure using survival analysis and generalized linear modeling. He matched companies from all the industry sector categories from 1994 to 2011. He concluded in the study that financial ratios and non-financial factors (managerial factors) have significant predictive ability for detecting failure of Ghana's public listed companies.

Mahama (2015) conducted research in assessing the financial distress of listed companies understanding their sources, signs, detection and elimination. He applied the Altman Z-score on the financial statements from 2007 to 2013 of ten listed companies on the Ghana Stock Exchange. He found that six companies were financially sound, two were in financial distress and the remaining two were experiencing financial deterioration.

METHODOLOGY AND DATA

In addition to the Altman Z-score, this study employs an alternative technique to the corporate failure prediction models, Cluster Analysis (CA).

Cluster Analysis (CA)

Cluster Analysis (CA) is defined as a family of data reduction techniques employed for separating cases, observations, or variables of a given dataset into homogeneous classes that are distinct from each other (Yim & Ramdeen, 2015). CA is a term given to a set of multivariate techniques that starts with a data set containing information about entities/objects and attempts to reorganize these into relatively homogenous groups. Also, because of the frequent instability of the results arising from standard statistical techniques, the user needs to supplement statistics with judgement. CA however, offers simple visual appealing graphical representation which does not require in-depth statistical knowledge.

Clustering techniques can be divisive or agglomerative:

(a) A divisive method begins with all cases in one cluster. This cluster is gradually broken down into smaller and smaller cluster.

(b) Agglomerative techniques start with (usually) single member clusters. These are gradually fused until one large cluster is formed. This study specifically focuses on hierarchical agglomerative cluster analysis. The hierarchical agglomerative cluster analysis is a statistical technique where groups are serially formed by systematically merging similar clusters together, as dictated by the distance and linkage measures chosen by the researcher (Yim & Ramdeen, 2015). The present paper focuses on hierarchical clustering, that has the goal of increasing within-group homogeneity and between-groups heterogeneity.

Clustering techniques can also be monothetic or polythetic:

(i) In *monothetic* scheme cluster membership is based on the presence or absence of a single characteristic.

(ii) *Polythetic* schemes use more than one characteristic (variable)

Five basic steps that characterize all CA methods have been used in this study:

(i) Selection of factors (financial variables) to be clustered

(ii) Definition of a set of variables on which to measure the entities in the sample

(iii) Computation of similarity/dissimilarity among companies

(iv) Use of a cluster analysis method to create groups of similar entities

(v) Validation of resulting clusters

Proximity-dissimilarities and Similarity Measures

To create clusters, we have to measure how near or farther our objects are; their proximities. This study has done this using either similarity or dissimilarity measures and shall refer to both of these as distances.

The SPSS has a multitude of distance measures that are appropriate for each type of data; interval, count or binary. The commonest measure is the Euclidean distance. In this connection, the study has used the Euclidean distance measure based on Pythagoras's theorem applied to points whose co-ordinates are given by the financial ratios used in the research. To find the distance from company a to company b, we find the difference on financial factor 1 and square it, distance on financial factor 2 and square it…add up all the squared differences and take the square root.

Mathematically the Euclidean distance between company a to company b when we have p number of financial ratios (factors) is:

$$d_{ab}\sqrt{\sum_{k=1}^{p}\left(x_{ak}-x_{bk}\right)^{2}}$$

One issue about the Euclidean distance is that they can be greatly influenced by variables that have the largest values. To overcome this issue, this study has standardized variables to bring them to equal scale. The study used the SPSS software that has its in-built function of transforming all the variables to z-scores, such that their means = 0 and Standard deviation = 1.

There are various clustering methods, but the one used in this study is Agglomerative Hierarchical method, specifically the between group single linkage.

The Agglomerative Hierarchical clustering method operates on the principle that each organization is considered to be a single member cluster to the final state where there is a single cluster containing all n number of financial factors.

Single Linkage: Nearest Neighbor

The form of clustering method used in this study is the type of single linkage known as the nearest neighbor. Suppose we have n objects. We treat each one as being a 'cluster' containing one object at the moment. The study conducted the following in carrying out the nearest neighbor technique:

(i) Start with n clusters. Each contains one individual.
(ii) Find the distances between all pairs of clusters. This is presented as a matrix. Unite the two closest financial ratios, say a and b. into a single group so that there are then (n-1) clusters.
(iii) Find all the pairwise dissimilarities again. The dissimilarity between this cluster and any other individual is defined by min ( ). In this case, we used the shortest distance from a cluster to another cluster to form the new matrix of distances
(iv) Find the shortest distance in the revised distance matrix. Unite these two closest 'clusters' which will either be two singletons or will be one singleton and the group of two formed in (ii).
(v) Construct a new dissimilarity/distance matrix for the (n-2) clusters.

As studies by many researchers have shown that financial insolvency models are basically unstable, in that the coefficients of a model will differ base on the economic health of a country (Moyer, 1977; Mensah, 1984), hence the need to use an accurate model with current data sets is paramount (Keasy & Watson, 1991). As a result, a more recent data set spanning from 2011 to 2015 of public listed companies (both failed and healthy) on Ghana Stock Exchange (GSE) is used. The study adapted the Z-Score bankruptcy model based on three (3) distinct dimensions namely - non-distress, semi-distressed and distressed with small refinements as follows:

Z Score Bankruptcy Model

$$Z = 1.2X_1 + 1.4X_2 + 3.3X_3 + 0.6X_4 + 0.999X_5$$

Based on our categorization, those companies having a z-score to be greater than 2.99 are considered as Non-distressed (Safe Zone), those between 1.81 to 2.99 are classified as Semi-distressed (Gray Zone) and those having the Z-Score to be less than 1.81 are considered as Distressed (Distressed Zone).

Zones of Discrimination

$Z > 2.99$ – "Safe" Zone
$1.81 < Z < 2.99$ – "Gray" Zone
$Z < 1.81$ – "Distress" Zone

The following symbols X1, X2, X3, X4, and X5 are define as follows. The symbol " / " means the same thing as " ÷ ", representing division.

X_1 = working capital / total assets
X_2 = retained earnings / total assets
X_3 = earnings before interest and taxes / total assets
X_4 = market value of equity / total liabilities
X_5 = sales / total assets
Z = overall index.

Variable Categorization

The study collected data from the financial statement of selected firms using five cooperate determinants (ratios) or variables for analysis. The variables are categorized into five standard ratio classification as: liquidity, profitability, leverage, solvency, and activity. The ratios are chosen on the basis of their popularity in the literature and their potential relevancy to the study. The Beaver study (1967) affirmed that the cash flow to debt ratio was the best single ratio predictor. However, this ratio was not considered in this study due to its lack of consistent and precise depreciation and cash flow data. In order to attain the final profile of variables, the following steps were considered:

1. Analysis of the statistical significance of various alternative functions, including evaluation of the relative contributions of each independent variable;
2. determination of inter-relationships among the relevant variables;
3. determination of the predictive accuracy of the various profiles; and
4. judgment of the analyst.

X1, Working Capital/Total Assets (WC/TA)

The working capital/total assets ratio, often found in corporate failure researches, is calculated using the net liquid assets of the firm relative to the total capitalization. Working capital is considered as the difference between current assets and current liabilities. Liquidity and size characteristics are explicitly considered. Usually, a firm having constant operating losses will have dwindling current assets in relation to total assets.

X2, Retained Earnings/Total Assets (RE/TA)

Retained earnings is considered as the account which reports the total amount of reinvested earnings and/or losses of a firm over its entire life. The account is also considered as earned surplus. It is worth mentioning that the retained earnings account is subject to "manipulation" via corporate quasi-reorganizations and stock dividend declarations. Although this issue is not apparent in this study, it is plausible that a bias would be formulated by a considerable reorganization or stock dividend and suitable

readjustments should be made to the accounts. The longevity of a firm is unreservedly considered in this ratio. For instance, a relatively young firm will probably show a low RE/TA ratio because it has not stayed for long to build up its cumulative profits. It is an undisputable fact that the younger firms are susceptible to failure and their chances of being classified as bankrupt is relatively higher than that of older firms. Indeed, this is precisely the situation in the real world. The situation of failure is much higher in firms with earlier years than newer years. In 1993, nearly 50% of all firms that failed were all within the first five years of their existence (Altman, 2000).
Furthermore, the RE/TA ratio determines the leverage of a firm. Those firms with high RE, relative to TA, have financed their assets through retention of profits and have not made use of much debt.

X3, Earnings Before Interest and Taxes/Total Assets (EBIT/TA)

This ratio is the amount of true productivity of the firm's assets, independent of any tax or leverage factors. Since a firm's main existence is relative to the earning power of its assets, this ratio appears to be particularly relevant for studies dealing with corporate failure.
Furthermore, insolvency in a bankrupt sense occurs when the total liabilities exceed a fair valuation of the firm's assets with value determined by the earning power of the assets (Altman & Rijken, 2011).

X4, Market Value of Equity/Book Value of Total Liabilities (MVE/TL)

Equity is determined using the combined market value of all shares of stock, preferred and common, whereas liabilities encompasses the current and long term liabilities. The ratio indicates how much the firm's assets can drop in value (determined by market value of equity plus debt) before the liabilities exceed the assets and the firm becomes insolvent. This ratio includes a market value component which most other failure studies did not consider. The ratio also appears to be a more active predictor of bankruptcy than a similar, more commonly used ratio; net worth/total debt (book values). The equity market value serves as a proxy for the firm's asset values.

X5, Sales/Total Assets (S/TA)

The capital-turnover ratio is a standard financial ratio depicting the sales generating capability of the firm's assets. It is one measure of management's capacity in handling competitive conditions of the business. This last ratio is quite relevant as it is the least important ratio on an individual basis. The ratio has a unique relationship to other variables in the model, the sales/total assets ratio ranks second in its contribution to the overall discriminating ability of the model.

The Data

The data consist of six industry sector categories on the Ghana Stock Exchange from 2011 to 2015 and were matched during the same time span. Below is a table showing the industry sector categories:

TABLE 1
INDUSTRY SECTOR CATEGORY

Categories	Sector
1	Banking & Finance
2	Distribution
3	Food & Beverage
4	Insurance
5	Manufacturing
6	Mining & Oil

Source: GSE Fact Book (2018)

The data employed were the published annual financial statements of both distressed and non-distressed companies obtained from the Internet, Ghana Stock Exchange and its Fact Books. Financial ratios were computed from the available financial reports.

Data Analysis and Key Findings

Descriptive Statistics

The study explored the effects of the following ratios of Altman Z-score model: X1 = working capital / total assets, X2 = retained earnings / total assets, X3 = earnings before interest and taxes / total assets, X4 = market value of equity / total liabilities and X5 = sales / total assets on survival or otherwise of 23 companies. For anonymity, the companies have been given pseudo names: C1 - C23.

When the data were subjected to critical analysis, it emerged that some of the companies were classified as distressed, semi-distressed and non-distressed. Out of the total number of 23 companies considered for the study, 16 were classified as non-distressed companies (i.e. C4, C5, C6, C10, C11, C14, C15, C19, C9, C16, C3, C18, C17, C7 and C8); 6 companies were classified as distressed (i.e. C1, C23, C2, C13, C12, C22 and C21) and only 1 was considered as semi-distressed (i.e. C20). Table 2 shows the calculation and classifications of the companies.

TABLE 2
RATIOS

Company	X1	X2	X3	X4	X5	Z Score	Remarks
C4	0.115	0.045	4.4920	18.318	0.132	26.147	Non-distressed
C5	0.115	4.523	4.522	34.048	0.132	41.955	Non-distressed
C6	0.116	4.334	4.334	0.032	0.106	20.636	Non-distressed
C10	0.059	4.720	4.720	0.077	0.148	22.449	Non-distressed
C11	1.778	5.681	5.681	0.080	0	28.884	Non-distressed
C14	0.208	1.968	1.967	0.008	0.072	9.574	Non-distressed
C15	0.209	2.227	2.227	0.008	0.074	10.799	Non-distressed
C19	0.078	2.737	2.737	11.367	0.144	19.923	Non-distressed
C9	0.220	21.525	21.525	0.169	1.423	102.959	Non-distressed
C16	-0.126	0.010	1.024	0.021	1.034	4.289	Non-distressed
C1	-0.062	-4.998	-4.998	0.992	0.630	-22.341	Distressed
C3	0.311	0.001	21.567	0.999	0.924	73.067	Non-distressed
C23	-0.071	0.0002	10.563	0.963	1.782	37.133	Distressed
C18	0.311	3.686	3.686	0.989	1.261	19.549	Non-distressed
C2	0.096	-7.108	-7.108	0.219	11.918	-21.256	Distressed
C13	-0.061	-30.810	-30.810	0.021	1.036	-143.829	Distressed
C12	-0.038	5.722	5.722	0.958	4.091	-31.509	Distressed
C17	0.051	4.693	4.693	1.221	0.614	23.464	Non-distressed
C22	0.023	-1.606	-1.606	0.011	0.206	-7.307	Distressed
C7	0.915	29.401	29.401	2972.668	0.386	1923.272	Non-distressed
C8	0.846	12.485	12.485	0.009	0.119	59.822	Non-distressed
C20	0.043	0.005	0.523	0.153	0.647	2.524	Semi-distressed
C21	0.051	-0.0001	-0.014	0.108	0.502	0.581	Distressed

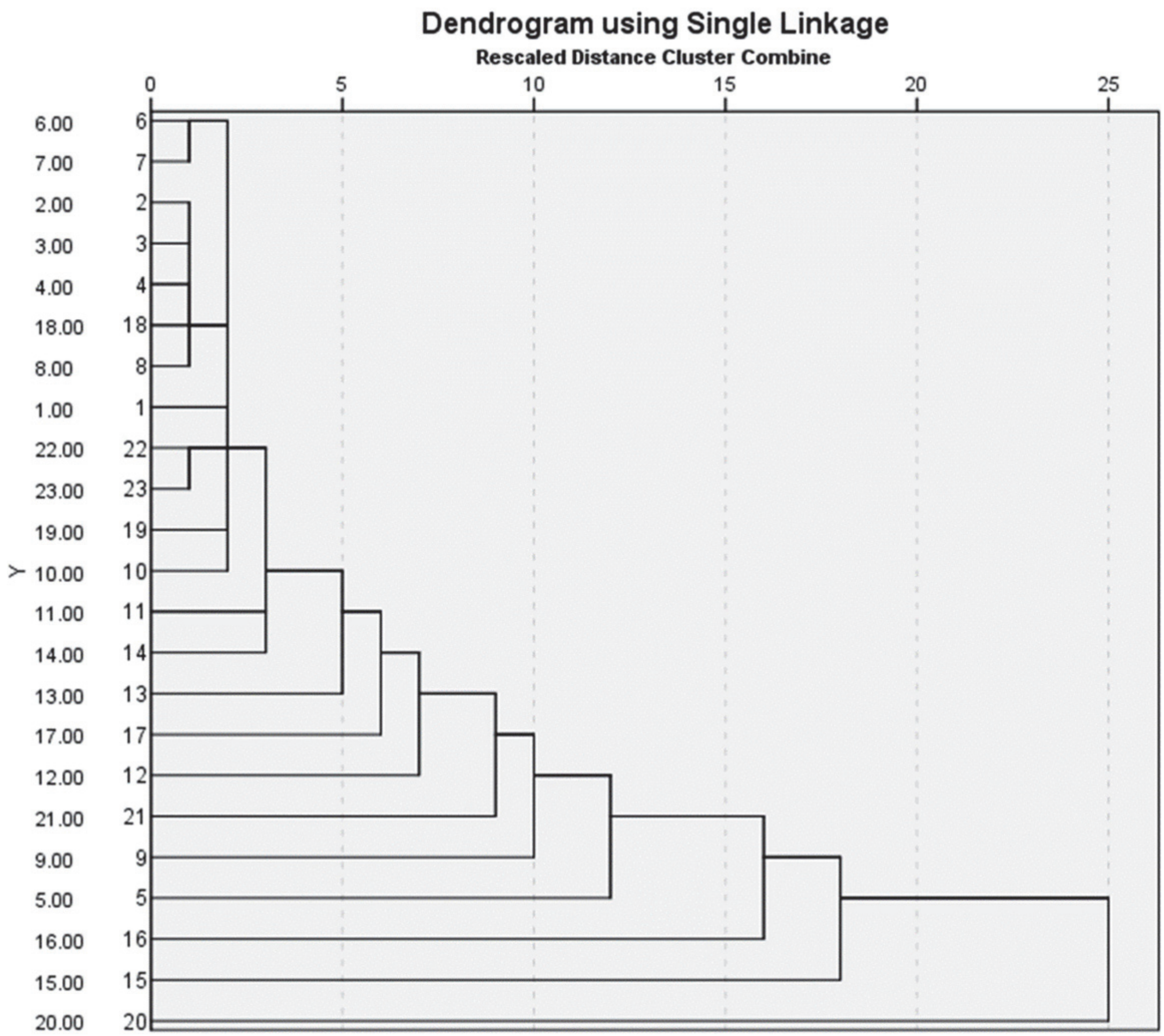
The researchers tried comparing the results of the classification based on the Altman Z-Score with that of the hierarchical clustering technique to ascertain if it will provide the same classification results. The following analysis of the hierarchical clustering method were therefore conducted

Hierarchical Clustering Method

Dendrograms

The results of a hierarchical clustering are presented as a dendrogram (tree diagram). This is a display of the hierarchical structure implied by the dissimilarity matrix and clustered by a linkage rule. If we use nearest neighbor clustering method with the Euclidean distance measure, then the following dendrogram is the main output.

FIGURE 1
DENDOGRAMS



The dendrogram shows relative similarities between cases. Notice how the 'branches' merge together as you look from left to right in the dendrogram.

The vertical line superimposing on the dendrogram produces a solution that has small within-cluster distance, but large between-cluster distances. The dendrogram suggests three cluster solution comprising one singleton and two other clusters. The branch that is separated and bigger at the upper part of the dendrogram is the singleton.

Proximity Matrix

From the analysis, the Euclidean distance proximities indicate how dissimilar the case study companies are. The study has classified companies with similar Euclidean distance proximities into three (3) groups. This is similar to the three-cluster solution earlier discovered on the dendrogram.

From the proximity matrix table in Table 3, companies that are different from each other have Euclidean distances that are dissimilar. For instance, C4 which is taken as Case 1 has an Euclidean distance of 0.418. This is different from the following companies in terms of proximity as follows: C11 (2.559), C3 (1.595), C2 (4.865), C13 (4.254), C12 (1.711), C17 (6.208) and C8 (2.190). Table 4 provides a summary of all companies with similar Euclidean distances. Those that are in the same group are similar in proximity and bear similar Euclidean distances and are likely to be classified under one group. Based on the Altman Z-score classification, the study can classify the companies into three (3) clusters: those with Euclidean distance from 0.418 - 1.5 (non-distressed); 1.6 - 6.40 (semi-distressed) and 6.50 – 9.35 (distressed).

TABLE 3
PROXIMITY MATRIX

Case	Euclidean Distance																						
	1.00	2.00	3.00	4.00	5.00	6.00	7.00	8.00	9.00	10.00	11.00	12.00	13.00	14.00	15.00	16.00	17.00	18.00	19.00	20.00	21.00	22.00	23.00
1.00	0.000	0.418	0.401	0.457	3.952	0.361	0.362	0.307	2.559	0.738	1.060	1.595	0.953	0.733	4.865	4.254	1.711	0.498	0.597	6.208	2.190	0.439	0.448
2.00	0.418	0.000	0.061	0.146	3.918	0.398	0.372	0.247	2.247	0.852	1.302	1.648	1.042	0.656	4.940	4.548	1.631	0.250	0.815	6.015	2.000	0.611	0.619
3.00	0.401	0.061	0.000	0.146	3.915	0.372	0.347	0.225	2.272	0.842	1.282	1.659	1.050	0.655	4.943	4.525	1.643	0.258	0.791	6.071	2.009	0.592	0.597
4.00	0.457	0.146	0.146	0.000	4.050	0.499	0.477	0.258	2.239	0.782	1.288	1.678	0.987	0.754	4.942	4.562	1.598	0.187	0.813	6.088	2.103	0.607	0.621
5.00	3.952	3.918	3.915	4.050	0.000	3.725	3.719	4.021	4.227	4.550	4.549	3.777	4.462	3.499	6.407	6.375	4.577	4.073	4.235	6.031	2.360	4.150	4.135
6.00	0.361	0.398	0.372	0.499	3.725	0.000	0.033	0.325	2.557	0.899	1.117	1.774	1.224	0.576	4.882	4.253	1.774	0.551	0.633	6.174	2.015	0.503	0.481
7.00	0.362	0.372	0.347	0.477	3.719	0.033	0.000	0.318	2.524	0.908	1.144	1.754	1.214	0.563	4.889	4.286	1.765	0.532	0.659	6.155	1.992	0.520	0.500
8.00	0.307	0.247	0.225	0.258	4.021	0.325	0.318	0.000	2.477	0.666	1.060	1.783	1.041	0.718	4.871	4.313	1.646	0.319	0.570	6.195	2.196	0.387	0.384
9.00	2.559	2.247	2.272	2.239	4.227	2.557	2.524	2.477	0.000	2.814	3.468	2.026	2.329	2.290	5.573	6.721	2.363	2.211	3.031	5.187	1.944	2.768	2.804
10.00	0.738	0.852	0.842	0.782	4.550	0.899	0.908	0.666	2.814	0.000	0.737	2.072	0.896	1.113	4.488	4.002	1.410	0.705	0.556	6.540	2.780	0.430	0.476
11.00	1.060	1.302	1.282	1.288	4.549	1.117	1.144	1.060	3.468	0.737	0.000	2.531	1.511	1.438	4.535	3.302	1.948	1.267	0.507	6.903	3.099	0.716	0.693
12.00	1.595	1.648	1.659	1.678	3.777	1.774	1.754	1.783	2.026	2.072	2.531	0.000	1.361	1.607	5.128	5.476	2.118	1.661	2.162	5.750	1.916	1.949	1.992
13.00	0.953	1.042	1.050	0.987	4.462	1.224	1.214	1.041	2.329	0.896	1.511	1.361	0.000	1.153	4.404	4.628	1.149	0.869	1.265	6.240	2.545	1.024	1.095
14.00	0.733	0.656	0.655	0.754	3.499	0.576	0.563	0.718	2.290	1.113	1.438	1.607	1.153	0.000	4.506	4.494	1.422	0.675	1.045	5.998	1.749	0.807	0.831
15.00	4.865	4.940	4.943	4.942	6.407	4.882	4.889	4.871	5.573	4.488	4.535	5.128	4.404	4.506	0.000	5.312	3.546	4.764	4.737	8.353	5.624	4.604	4.653
16.00	4.254	4.548	4.525	4.562	6.375	4.253	4.286	4.313	6.721	4.002	3.302	5.476	4.628	4.494	5.312	0.000	4.825	4.547	3.751	9.358	5.940	3.979	3.950
17.00	1.711	1.631	1.643	1.598	4.577	1.774	1.765	1.646	2.363	1.410	1.948	2.118	1.149	1.422	3.546	4.825	0.000	1.412	1.819	6.278	2.757	1.556	1.624
18.00	0.498	0.250	0.258	0.187	4.073	0.551	0.532	0.319	2.211	0.705	1.267	1.661	0.869	0.675	4.764	4.547	1.412	0.000	0.824	6.094	2.128	0.569	0.602
19.00	0.597	0.815	0.791	0.813	4.235	0.633	0.659	0.570	3.031	0.556	0.507	2.162	1.265	1.045	4.737	3.751	1.819	0.824	0.000	6.569	2.644	0.301	0.245
20.00	6.208	6.015	6.071	6.088	6.031	6.174	6.155	6.195	5.187	6.540	6.903	5.750	6.240	5.998	8.353	9.358	6.278	6.094	6.569	0.000	5.268	6.414	6.427
21.00	2.190	2.000	2.009	2.103	2.360	2.015	1.992	2.196	1.944	2.780	3.099	1.916	2.545	1.749	5.624	5.940	2.757	2.128	2.644	5.268	0.000	2.462	2.465
22.00	0.439	0.611	0.592	0.607	4.150	0.503	0.520	0.387	2.768	0.430	0.716	1.949	1.024	0.807	4.604	3.979	1.556	0.569	0.301	6.414	2.462	0.000	0.077
23.00	0.448	0.619	0.597	0.621	4.135	0.481	0.500	0.384	2.804	0.476	0.693	1.992	1.095	0.831	4.653	3.950	1.624	0.602	0.245	6.427	2.465	0.077	0.000

This is a dissimilarity matrix

TABLE 4

Companies	**Range of Euclidean distance proximities**	**Remarks**
C4, C5, C6, C10, C11, C14, C15, C19, C9, C16, C3, C18, C17, C7 and C8	0.41 - 1.5	Cluster 1/non-distressed
C1, C23, C2, C13, C12, C22 and C21	6.50 – 9.35	Cluster 2/distressed
C20	1.6 - 6.40	Cluster 3/semi-distressed

The agglomeration schedule in Table 5 shows how the cases are clustered at each stage of the analysis. For example, at stage 1 cases 6 and 7 are joined with a coefficient of 0.033, at stage 2 cases 2 and 3 are joined with a coefficient of 0.061 etc., all the way to case 14 which all have coefficients less than 1.0. Thereafter, there is sudden jump from case 15 with a coefficient of 1.149 to case 21 that has a coefficient of 3.546. However, the coefficient of case 22 is unique with a value of 5.817, implies that case also belong to its own classification. We may say that case 1 to 14 belong to one cluster which will be considered as group of non-distressed companies. Similarly, case 15 to 21 also belongs to another set of clusters and may be regarded as distressed and finally only one case, case 22 is unique in its coefficient. It will then be classified as the only company that was picked by Altman (1968) classifier as semi-distressed. According to Yim and Ramdeen (2015), the coefficient values of agglomeration schedule are dependent on the proximity measure and the linkage method used. The more homogeneous the two clusters are the smaller the coefficient values, the larger the values the more dissimilar or distant the clusters being combined.

TABLE 5
AGGLOMERATION SCHEDULE

	Cluster Combined			Stage Cluster First Appears		
Stage	Cluster 1	Cluster 2	Coefficients	Cluster 1	Cluster 2	Next Stage
1	6	7	0.033	0	0	9
2	2	3	0.061	0	0	4
3	22	23	0.077	0	0	7
4	2	4	0.146	2	0	5
5	2	18	0.187	4	0	6
6	2	8	0.225	5	0	8
7	19	22	0.245	0	3	10
8	1	2	0.307	0	6	9
9	1	6	0.318	8	1	10
10	1	19	0.384	9	7	11
11	1	10	0.430	10	0	12
12	1	11	0.507	11	0	13
13	1	14	0.563	12	0	14
14	1	13	0.869	13	0	15
15	1	17	1.149	14	0	16
16	1	12	1.361	15	0	17
17	1	21	1.749	16	0	18
18	1	9	1.944	17	0	19
19	1	5	2.360	18	0	20
20	1	16	3.302	19	0	21
21	1	15	3.546	20	0	22
22	1	20	5.187	21	0	0

TABLE 6
CLUSTER MEMBERSHIP

Case Number	Company	Cluster	Distance
1	1.00	1	15.210
2	2.00	1	30.430
3	3.00	1	4.005
4	4.00	1	3.901
5	5.00	1	4.379
6	6.00	1	5.671
7	7.00	1	5.414
8	8.00	1	8.397
9	9.00	1	23.918
10	10.00	1	7.155
11	11.00	3	13.740
12	12.00	1	16.410
13	13.00	1	6.749
14	14.00	1	3.477
15	15.00	3	12.580
16	16.00	3	23.604
17	17.00	1	4.735
18	18.00	1	2.835
19	19.00	1	9.925
20	20.00	2	.000
21	21.00	1	11.542
22	22.00	1	7.428
23	23.00	1	7.846

Table 6 shows cluster membership for each case. Cluster membership attempts to group individual constituents or items into homogeneous sub-sets. This can be interpreted by looking for the cases that are grouped together. From Table 6, it is evident that companies 1-10, 12-14, 17-19, 21-23 are grouped under cluster 1 as follows: C4, C5, C6, C10, C11, C14, C15, C19, C9, C16, C3, C23, C18, C12, C17, C22, C8, C7, C21. These companies will then be considered as non-distressed. Similarly, companies C1, C2 and C13 are also classified under cluster 2 and can then be considered as distressed companies. Finally, only one company, company C20 is classified under cluster 3 and that may also be considered as semi-distressed company.

From the hierarchical clustering it is evident that, out of the 23 companies considered in the study, 19 companies (C4, C5, C6, C10, C11, C14, C15, C19, C9, C16, C3, C23, C18, C12, C17, C22, C7, C8, C21) have been distinctively categorized as non-distressed. Similarly, 3 companies (C1, C2 and C13) have been classified as distressed and only 1comapny C20 is classified as Semi-Distressed.

CONCLUSION

This study applied both Z-score classifier and hierarchical clustering technique to classify companies into: non-distressed, semi-distressed and distressed. In both instances, companies are distinctively categorized into three dimensions instead of the binary classifications employed by previous studies.
From the results, the Altman z-score model has been able to classify the 23 companies into three dimensions; non-distressed, semi-distressed and distressed. Out of which 16 were classified as non-distressed companies; 6 were classified as distressed and only 1 was considered as semi-distressed.

In the same vein, out of the 23 companies considered in the study, the Hierarchical Cluster method has distinctively categorized 19 companies as Non-distressed. The method also chose 3 companies as distressed and only 1 company was classified as semi-distressed.

In both methods, there was slight misclassification. While the Altman method classified 16 companies as non-distressed, the Hierarchical Cluster method categorized 19 companies as non-distressed. Similarly, the Altman method classified 6 companies as distressed and 1 as semi-distressed respectively, whereas, the Hierarchical Cluster method categorized 3 companies as distressed and 1comapny as semi-distressed. In both cases, the misclassification occurs in either non-distressed or distressed, but there has been consistent classification for the semi-distressed. This could be as a result of different ratio calculations in various industries or sectors. However, future research could help explore this further.

The study has therefore formulated a simple to use scale in company's classification. This scale can then be used as benchmark to incorporate any new company into the structure. Even though this technique may not offer an optimum solution, however, it is simple and effective. Bearing in mind that a precise result is not actually required, hence this technique can be simply used by practitioners wanting to assess an organization's financial health.

DISCLAIMER

Authors declare that they do not have any contending financial, professional, or personal interests from other parties.

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How Online Descriptions of Used Goods Affect Quality Assessment and Product Preferences: A Conjoint Study

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Online sellers need to provide information about used products. This study answers two important related questions: (1) what kinds of product information should online sellers provide, and (2) how do different kinds of used product information affect online buyers' preference and perception of quality? We find that when a used product is a high-involvement one, buyers' preference of the product is more influenced by its physical condition than by price; however, when the product is a low-involvement product, its price is more important than the physical condition. Other information cues have a less significant impact on buyers' preference.

INTRODUCTION

In typical online marketplaces, such as Amazon and eBay, used items account for significant portions of sales of many product categories such as book and consumer electronics. For example, as Table 1 shows, in the category of "Electronics" on eBay, used items usually account for approximately 20% to 60% of all the items listed under different sub-categories. Buyers may be interested in buying used or pre-owned products for several different reasons. First, probably most importantly, used items are often significantly cheaper than brand-new items. Particularly, buying used items of high-value products such as cars saves money. Second, some people may believe the latest models have more technological or quality risks than older models which have already been widely used for a longer time. One recent example is Samsung's disastrous Galaxy Note 7. Third, people may buy used products for collection or investment purposes (ex. antiques). Last, for some products there may not be any brand-new items for sales due to a variety of reasons including discontinuation of production, while there is still a demand for them among some buyers, e.g., auto parts for old models.

TABLE 1
PERCENTAGES OF USED ITEMS IN THE SAMPLE PRODUCT CATEGORIES LISTED ON EBAY ON SEPTEMBER 6, 2018

Category	Sample Sub-Category	Number of Used Items	Number of All Items[1]	Used/All
Camera & Photo	Point & Shoot Digital Cameras	13,271	22,973	57.8%
	Camera Lenses	117,256	200,849	58.4%
Cellphones, Smart Watches, & Accessories	Unlocked Phones	26,288	114,398	23.0%
Computers, Tablets & Network Hardware	Laptops & Netbooks	44,636	98,377	45.4%
	Tablets & eReaders	22,192	96,228	23.1%
TV & Video Equipment	TVs	4,112	21,275	19.3%
Video Games & Consoles	Sony PS4 Consoles	1,225	4,450	27.5%
	Microsoft Xbox One Consoles	1,708	3,187	53.6%

While buying used items online provides benefits, it involves risks from the buyers' perspectives. According to Roselius (1971) and Jacoby and Kaplan (1972), there are six different types of risks in a typical shopping transaction: financial, performance, physical, psychological, social, and time lost. For purchases of used goods online, all the risks mentioned above still are present. Some of the risks, particularly the performance risk, could be more significant than when purchasing new items. This is because different used items of the same brand or model may be significantly different in terms of their performance and condition, since their previous owners' may have highly different use patterns. For example, a smartphone that "has been used lightly" and "always kept in a protective case" should be more favored by buyers than one "heavily used" and "covered by some noticeable wears and scratches."

In typical online marketplaces such as Amazon and eBay, shoppers interested in an item has access to three different types of information. First, they can see product information provided by the seller regarding the item's attributes including specifications, physical conditions, etc., typically accompanied by one or multiple images of the item. Second, the seller also specifies its price, shipping time and fee, and warranty. Third, previous customers who have purchased and used the product can post their reviews on that product and their purchase experiences with the seller, typically on 5-star scales. We can call the third type of information electronic word of mouth (eWOM) because they are provided by other buyers rather than by the seller[2].

This study focuses on the first type of information, particularly, how sellers describe their used products. We examined thousands of used items in dozens of product categories sold on Amazon.com and eBay.com. In addition to product specifications, we found the following four types of product information provided by sellers are most common regarding used products. Table 2 shows some examples of these four types of product information.

TABLE 2
EXAMPLES OF VERBATIM DESCRIPTION ABOUT USED PRODUCTS PROVIDED BY SELLERS

Attribute	**Example**
Physical condition	Excellent; Near mint; In great condition; Very clean; Everything on it works; Is fully functional; Shows some signs of use but there are no major imperfections; Some Cosmetic Wear;
Duration of ownership	Bought it last month; purchases brand new from Best Buy a couple years ago;
Extent of usage	Never used! Looks like it has barely been used only used a few times; Used regularly;
Reason for selling[3]	Sell because I won't use it anymore; Just bought a (newer model), so I am selling this (item);

While we suspect that these product attributes from the seller shoppers are relevant to address product uncertainty, it is unclear to what extent each of these informational cues affects online shoppers' preferences and perceived quality. This study specifically investigates two important questions regarding online sellers' selling strategy for used products: (1) what kinds of product information should online sellers provide, and (2) how do different kinds of used product information affect online buyers' preference and perception of quality?

LITERATURE REVIEW

Online Consumer Informational Cues

In general, consumers use cues of product attributes to infer product quality (Zeithaml, 1988). Because product quality is an important factor for purchase decisions, the process of finding attribute cues needs to be performed before making a purchase. In an online environment, this process becomes more important, since consumers cannot see or touch the actual product and thus the ability to assess product quality is more limited in an online environment. For online purchases, consumers actively seek cues from online information about the product (e.g., product description on the retailer's website, product reviews by other consumers) (Pan & Chiou, 2011). Those cues influence product quality assessment, product choice, and purchase intention.

Zeithaml (1988) categorizes quality-signaling cues into two groups: intrinsic and extrinsic cues. Intrinsic cues are product attributes that exist within the product, and extrinsic cues are attributes that exist outside the product (e.g., price, brand name, warranty). In the context of used goods retailing, while both intrinsic and extrinsic cues are important for quality perception and purchase intention, consumers would evaluate intrinsic cues (e.g., the condition of the product, the duration that the product was in use) first before considering extrinsic cues (e.g., price) because a poor product condition signals poor product quality. However, multiple positive extrinsic cues can also counteract the effects of negative intrinsic cues. Hence, the present research investigates how different levels of intrinsic and extrinsic cues influence consumers' quality perception and product choice among used product options in online retailing settings.

Used Product Literature

In the area of marketing, very few previous studies have investigated consumer behavior related to used, refurbished, or remanufactured products. Starhilevitz and Loewenstein (1998) investigate how the duration of ownership is related to selling price of pre-owned products. Based on the loss aversion and endowment effect theories, they find that longer duration of current ownership leads to higher price posted by sellers. Essoussi and Linton (2010) find that for products with reused content, consumers' willingness to pay is significantly affected by their perceived functional risk. Even for environmentally oriented consumers, the possibility of either functional or cognitively-evaluated types of risk remains highly important when they have an overall positive attitude toward buying recycled products. Consumers may switch from a recycled product to a new product within a smaller range of price for products with high functional risk. Mugge et al. (2018) examine how visual (signs of wear and tear) or verbal (textual description) information about used products affect consumers' evaluations of refurbished products. They find that overall visual information about prior use has a negatively affects consumers' evaluations of refurbished products. The effect of verbal information is negatively significant when there is no sign of wear or tear due to confusion among consumers. Verbal information about prior use has insignificantly effect when signs of wear or tear are present. Zhou and Gupta (2018) consider pricing strategy for new and remanufactured products across multiple generations. Using data from eBay, they examine prices of different generations of iPhones, new and refurbished, and identify the factors affecting pricing. They find product related variables including product condition are the most critical factors determining prices while the percentage of positive reviews on the seller also has significance.

Consumer Involvement

The concept of consumer involvement has been researched extensively by marketing scholars (Quester & Smart, 1998). Past studies on this topic reveal that consumer involvement significantly influences consumers' decision-making processes (Laurent & Kapferer, 1985). In the context of eWOM, Park and Lee (2008) use the elaboration likelihood model (ELM) to argue that consumers who are highly involved with a product would utilize cognitively intensive processing of online product reviews, while consumers who are less involved would engage in rather superficial processing of online product reviews. Their experimental studies support their arguments, confirming that consumer involvement affects how a consumer processes online information presented to her. Consumer involvement has also been shown to influence consumers' decision-making in offline settings. In the context of red wine purchases at brick-and-mortar retailers, Quester and Smart (1998) conduct a conjoint study to find that the high-involvement group and the low-involvement group put different weights on each of the red wine attributes in different consumption settings. They conclude that consumer involvement plays a mitigating role in the relationship between consumption situations and consumers' red wine preferences. Building on the above research findings, we expect that highly involved consumers and less involved consumers would process online descriptions of product attributes differently in used-product buying situations.

RESEARCH METHOD

Conjoint Analysis

Marketing researchers have been using conjoint analysis as a multivariate technique widely to determine how consumers develop their preferences for different options such as brands (Green & Srinivasan, 1990). It is based on the premise that consumers form preference (utility) of a product by adding separate amounts of utility for each separate attribute of that product, called a part-worth. Conjoint analysis requires that the researcher first create a set of hypothetical products with attributes at different pre-selected levels, and then the set of product profiles will be presented to the respondents. The respondents compare the profiles, make trade-off among different good and bad features, and then rate or rank these profiled according to their preferences. The researcher can decompose the preferences into part-worths to determine the importance of different product attributes. Conjoint analysis can also be used to estimate the market shares of different brands since we can assume that each customer would choose the option with the highest utility.

We conducted some pilot studies to identify used book as a low-involvement product and used camera as a high-involvement product. For each of the five attributes including price, two different levels were selected as Tables 3a and 3b show. For both used products, the low prices and medium prices were 80% and 90% of the prices of their brand-new counterparts, respectively. For each product, five attributes with each having two levels would generate 32 profiles. These profiles could be too time-consuming and burdensome for respondents to rank without feeling undue fatigue. As a result, we used SPSS to create a fractional design and reduced the number of profiles to 9. We decided to add two options for each product, one was used and with only asked price and the other was brand new with a full price.

TABLE 3A
PROFILES OF USED PRODUCTS - DIGITAL CAMERA

Item	Physical Condition	It has been owned for	Usage	Reason for Selling	Asked Price
1	Shows signs of wear and has some scratches	3 months	Normal use	I don't use it much anymore	$630
2	Like new; no scratch or wear	12 months	Hardly used	I've upgraded to a more advanced model	$630
3	Shows signs of wear and has some scratches	3 months	Normal use	I've upgraded to a more advanced model	$560
4	Shows signs of wear and has some scratches	12 months	Hardly used	I've upgraded to a more advanced model	$560
5	Shows signs of wear and has some scratches	3 months	Hardly used	I've upgraded to a more advanced model	$630
6	Like new; no scratch or wear	12 months	Normal use	I don't use it much anymore	$560
7	Like new; no scratch or wear	3 months	Normal use	I don't use it much anymore	$560
8	Shows signs of wear and has some scratches	12 months	Normal use	I've upgraded to a more advanced model	$630
9	Like new; no scratch or wear	3 months	Hardly used	I don't use it much anymore	$630
10	Used; no additional information available				$630
11	Brand new; sealed in original box				$700

TABLE 3B
PROFILES OF USED PRODUCTS – REFERENCE BOOK

Item	Condition	It has been owned for	Usage	Reason for Selling	Asked Price
1	Shows signs of wear and has some notes	3 months	Normal use	I don't use it much anymore	$135
2	Like new; no scratch or notes	12 months	Hardly used	I've upgraded to a newer edition	$135
3	Shows signs of wear and has some notes	3 months	Normal use	I've upgraded to a newer edition	$120
4	Shows signs of wear and has some notes	12 months	Hardly used	I've upgraded to a newer edition	$120
5	Shows signs of wear and has some notes	3 months	Hardly used	I've upgraded to a newer edition	$135
6	Like new; no scratch or notes	12 months	Normal use	I don't use it much anymore	$120
7	Like new; no scratch or notes	3 months	Normal use	I don't use it much anymore	$120
8	Shows signs of wear and has some notes	12 months	Normal use	I've upgraded to a newer edition	$135
9	Like new; no scratch or notes	3 months	Hardly used	I don't use it much anymore	$135
10	Used; no additional information available				$135
11	Brand new; sealed in original box				$150

There were 120 students from two universities in the U.S. participated in this study. The 11 product profiles for the two products were presented to the participants individually on hard-copy questionnaires. For each of the two products, the participants were asked to rank the 11 offerings in terms of their preference from 1 (most preferred) to 11 (least preferred) and their perceived quality from 1 (most durable) to 11 (least durable). The participants were also asked to rate how expensive each of the two products appeared to them and how important and risky they perceived a purchase of each of the two products was on a seven-point scale.

Results and Discussion

Paired sample t-test results confirmed that the camera was perceived to be with higher involvement than the reference book. For the participants, the camera was more expensive (mean 5.51/7 vs. 4.16/7, $p<0.001$), and purchase of the camera was more important (mean 6.02/7 vs. 4.47/7, $p<0.001$) and riskier (mean 5.04/7 vs. 2.80/7, $p<0.001$).

We use conjoint analysis to analyze the ranking of the participants' preferences and perceived quality of the hypothetical offering profiles. The estimated part-worths and relative importance of the five attributes are shown in Table 4a and 4b.

TABLE 4A
ESTIMATED PART-WORTHS AND IMPORTANCE: PREFERENCE

Attribute	Levels	Part-worths		Importance (%)	
		Camera	Book	Camera	Book
Condition	Like New	-2.558 (.158)	-1.931(.198)	30.564	23.774
	Wear and scratch	-5.116(.316)	-3.863(.396)		
Duration of ownership	3 months	-1.418(.129)	-.866(.162)	17.299	12.896
	12 months	-2.835(.258)	-1.732(.324)		
Usage	Hardly Used	-.956(.139)	-.772(.174)	15.649	13.304
	Normal Use	-1.911(.277)	-1.544(.348)		
Reason for selling	No use	.120(.176)	-.063(.220)	11.16	10.696
	Upgraded	.240(.352)	-.125(.441)		
Price	90% New Price	1.972(.120)	3.214(.151)	25.328	39.330
	80% New Price	3.943(.240)	6.428(.301)		

Note: Standard errors are in parentheses.

A comparison of the two sets of part-worths in Table 4a shows how the impacts of the five attributes on preference change from camera to book. For the camera, condition is the most important attribute, followed by price. For the book, price is the primary attribute which accounts for about 40% of the preference, followed by condition. Duration of ownership and extent of usage have equal weight in preference but are both less important than condition and price. Participants did not give much consideration to reason for selling.

TABLE 4B
ESTIMATED PART-WORTHS AND IMPORTANCE: PERCEIVED DURABILITY

Attribute	Levels	Part-worths		Importance (%)	
		Camera	Book	Camera	Book
Condition	Like New	.301(.208)	-2.943(.141)	36.607	33.948
	Wear and scratch	-3.060(.416)	-5.885(.282)		
Duration of ownership	3 months	-6.121(.170)	-1.412(.115)	21.436	22.068
	12 months	-1.428(.340)	-2.823(.230)		
Usage	Hardly Used	-2.857(.183)	-.980(.124)	18.378	19.371
	Normal Use	-.861(.365)	-1.959(.248)		
Reason for selling	No use	-1.722(.232)	-.042(.157)	11.088	9.915
	Upgraded	-.011(.463)	-.085(.314)		
Price	90% New Price	-.022(.158)	.620(.107)	12.491	14.697
	80% New Price	.460(.316)	1.240(.214)		

Note: Standard errors are in parentheses.

In comparison, the five attributes have very similar impacts on participants' perceived durability of both products. Condition is the most important attribute, followed by duration of ownership and extent of usage. Although price is either the first or second most important attribute when it comes to preference, it is as unimportant as the reason for selling in determining perceived quality. Apparently, price's different weights in determining preference and durability suggest that participants did not apply the "high price = high quality" heuristic in their judgment of durability.

TABLE 5A
PERCENTAGE OF BUYERS INDICATING THEIR FIRST CHOICE: PREFERENCES

Item#	1	2	3	4	5	6	7	8	9	10	11
Camera	0.0%	3.3%	1.7%	2.5%	1.7%	3.3%	45.0%	0.0%	11.7%	0.8%	30.0%
Book	0.8%	3.3%	3.3%	5.0%	0.0%	5.0%	57.0%	0.0%	9.1%	0.0%	16.5%

Assuming each participant would choose the product with the highest utility when the 11 products are sold simultaneously, we can calculate the "market shares" of the 11 profiles as shown in Table 5a. An examination of these market shares generates more insights into consumer's preferences.

First, of both product categories, item #7 is the most popular choice and accounts for approximately half of the market, followed by #11 and #9. On the one hand, the popularity of item #7 suggests that consumers are willing to choose a used item over a less used or a brand-new one when its price is reasonably low. On the other hand, although item #9 is like new and has hardly been used, more customers select the brand-new item #11 which is more expensive. This suggests that lower prices of used items can compensate for their poorer conditions only to a certain extent.

Second, when comparing the market shares of the two most popular items, #7 and #11, we can see how the preferences of a higher-priced brand-new item and a lower-priced used item change from camera to book. While the used and lower-priced #7's market share increases from 45% (camera) to 57% (book), the market share of the brand-new and higher-priced #11 decreases by almost 50% (30.0% vs. 16.5%). In other words, participants are almost twice as likely to buy a brand-new camera than a brand-new book.

Furthermore, the market share of item #10, which is without product information, is close to the market shares of items #1, #2, #5, and #8, which have the same price with different other attributes. It seems that providing no product information at all is almost as bad as providing negative information.

TABLE 5B
PERCENTAGE OF BUYERS INDICATING THEIR FIRST CHOICE: QUALITY

Item#	1	2	3	4	5	6	7	8	9	10	11
Camera	0.8%	2.5%	0.8%	0.0%	0.8%	4.2%	15.1%	0.0%	0.0%	0.0%	75.6%
Book	0.0%	0.0%	0.8%	0.0%	0.0%	4.2%	13.4%	0.8%	1.7%	0.8%	78.2%

It is not surprising to see that the majority of the participants believed the brand-new item is the most durable one, as shown in Table 5b. Somewhat unexpected is the fact that about 15% of the participants believed item #7, which is used, is more durable than item #11 which is brand new. One logical explanation is that although item #7 had been used for a short period, it was tested by the previous user and already proved to be good, while item #11 had not been tested so it may be found later to be less durable.

CONCLUSION AND MANAGERIAL IMPLICATION

The purpose of the present research is to investigate how consumers evaluate multiple cues of used products to form judgments on product quality and preferences in the online retailing context. To gain insights into consumers' usage of multiple cues of used products, we conducted a conjoint study with used digital camera and used book as focal product categories. The conjoint analyses reveal that, for used digital camera, product condition is the most important cue that consumers use when choosing a product. Price is the second most important cue. Consumers do not put much weight on ownership duration, usage level, and reason for selling while making a choice. For used book, price is the most important cue for forming preferences, followed by product condition. These findings suggest that consumers evaluate the importance of product condition and price differently, depending on the types of used products. Because digital cameras are sophisticated high-involvement products, a slight damage to a few parts could result in poor performance of a digital camera, which would cause consumer dissatisfaction. Recognizing this risk, consumers consider the product condition of a used digital camera as a more effective cue for product quality, compared to the price of the used digital camera. On the other hand, a slight damage to a used book does not affect the content of the book negatively and thus would not affect satisfaction levels for most consumers. Given this lower level of sensitivity to physical condition, price becomes a much more important factor when buying a used book, as it predominantly determines the overall value of the used book.

In assessing perceived durability, consumers use product condition and ownership duration as the most important cues in both product categories. Consumers understand that product condition would directly affect how durable a used product could be. They apply this logic to used book purchase situations as well as used digital camera purchase situations. After product condition, consumers consider ownership duration as another important cue in judging durability of a used product. Although usage level is not far behind in importance, it appears that consumers value more the information that ownership duration provides, compared to the information that usage level provides.

The present research offers important implications for practitioners. First, for online resellers of used high-involvement products such as digital cameras, it is important to describe product condition of their products in detail, since consumers would process the information about product condition first before making a purchase decision. Second, for online resellers of used low-involvement products such as books, their prices should be very competitive on the online retail platform. For such used products, price is the dominant factor for purchase decisions, as product condition would not affect consumption experience significantly for most consumers. Our research further suggests that prices for used products in like-new conditions should be close enough to those for used products in normal conditions. In other words, resellers are advised not to charge significantly higher prices because their used products are in excellent conditions. Particularly, in low-involvement product categories, consumers do not perceive that used products in like-new conditions would provide significantly better consumption experience than used products in normal conditions would.

FUTURE DIRECTIONS

Some online market places such as Amazon and eBay allow sellers to post images and even videos of the item for sale. Although this study would be too complicated if visual aids were included in the product profiles, we are curious about how the presence of these non-verbal informational cues affects the outcomes. In addition to the product information and price provided by sellers, online shoppers also have access to other customers' evaluations of the product and its sellers including the rating of the product and sellers' previous transaction records and reputation score. We can call them the electronic word of mouth (eWOM) which is a rich area for research in online consumer behavior. Further studies are needed to investigate how eWOM of the product and seller will interfere with the impact of product information and price on shoppers' preference and evaluation.

ENDNOTES

1. Note: On eBay, each of listed items fits one of seven conditions: "New", "New other", "Manufacturer refurbished", "Seller refurbished", "Used" and "For parts or not working", and "Not Specified". We only considered those items listed as "Used".
2. eWOM is a highly active research area in marketing. See Anand et al. (2017) and Cheung and Thadani (2012) for literature reviews.

3. According to statista.com, the top four reasons for U.S. consumers selling used items in 2017 were: (1) “I didn’t use it anymore”; (2) “I wanted to earn money” ;(3) “I wanted to get rid of old things”; (4) “I wanted to create space for something new”. However, out of thousands of used items sold online, we did not find any sellers of them who explicitly listed “want to make money” as a reason for selling. For simplicity, we decided to combine reasons (1) and (3) into one in our survey study.

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Correlation between Creative Tourism and Agrotourism Services Experiences: An Empirical Research in the Mexican Rural Tourism Environment

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There is an immediate need to promote rural areas, where Mexico's highest poverty is concentrated, but the most potential exists for future development. The preferences of the new modern tourist are based mainly on living experiences rather than just sights and souvenirs. The creative experience as the basis of Creative Tourism can be adopted by agrotourism, a type of Rural Tourism, that consist of tourist activities which are based on experiences that natives in the rural area experience on a daily basis. Thirty tourists from 18 to 23 years of age participated in agrotourism activities such as ointment workshops, food workshops, pulque (an alcoholic beverage made from the fermented sap of the maguey- agave-plant) preparation workshops, embroidery workshops, farming workshops, and a guided trip to the ecological reserve.

With the use of narratives, experience maps, and audiovisual materials, the results show that the essence of Creative Tourism was understood as active participation and creativity. Many of the participants expressed novelty as a written and graphic expression of creative tourism which enabled them to have a better overall experience. This finding suggests that agrotourism should include different aspects of creative tourism as part of a "creative experience" for those in charge of the tourism industry in Mexico.

LITERATURE REVIEW

The UN recognizes that global tourism is a concept that is becoming increasingly important and is a useful instrument for developing the global economy and fight against poverty. The UNWTO emphasizes the importance of carrying out responsible practices seeking the development of sustainable tourism to optimize the use of resources, respect the socio-cultural authenticity of communities and ensure long-term economic activities (UNWTO, 2014. UN, 2013). One way to get sustainable tourism is by promoting creative tourism. According to Chang, Backman, and Huaung (2014), creative tourism should be used as a method for countries to separate themselves from each other distinctively. In an industry that is very competitive, creative tourism offers developing countries the opportunity to be unique and showcase their natural beauty (Chen & Chen, 2010).

Having tourist directly submerged within the culture of the country creates a memorable experience because of the practical application (Cai, Lehto & Huang, 2010). Creative tourism is not meant to replace traditional tourism but rather enhance the experience. Developing countries can use creative tourism as means to bridge the gap with countries who possess more resources (Chen & Chen, 2010; Lo & Lee, 2010; Richards, 2011; Richards & Marques, 2012). Because of its purity, creative tourism provides the opportunity for developing countries to showcase its culture in an inexpensive manner (Prebensen, Woo, Chen & Uysal, 2012).

Developing countries are afforded the opportunity to create new services and industries and combine existing sectors that may not have been possible with traditional tourism (Stojanovic, Petkovic & Mitkovic, 2012). For example, tourism can now be paired with education by providing classes to tourist on different topics such as cookery, painting and other arts and crafts. With the combination of tourism and cultural activities, countries will be provided the chance to increase jobs across many sectors while sharing its norms and beliefs with the world (Tan, Kung & Luh, 2013). In Mexico, there is a great need to promote areas where the country's highest poverty is concentrated and have a rich culture and an abundance of natural wealth that is unused. The tourism sector may be a viable option for this need, however, during the last decades, Mexico has promoted an agrarian policy that has increased poverty levels in the rural population, mainly among indigenous groups. Rural tourism in marginalized spaces represents an alternative to encourage rural territorial development (Acharya & Halpenny, 2013). This type of tourism as an opportunity for rural areas is being threatened and is at risk of potentially disappearing (Saarinen & Monkgogi, 2014).

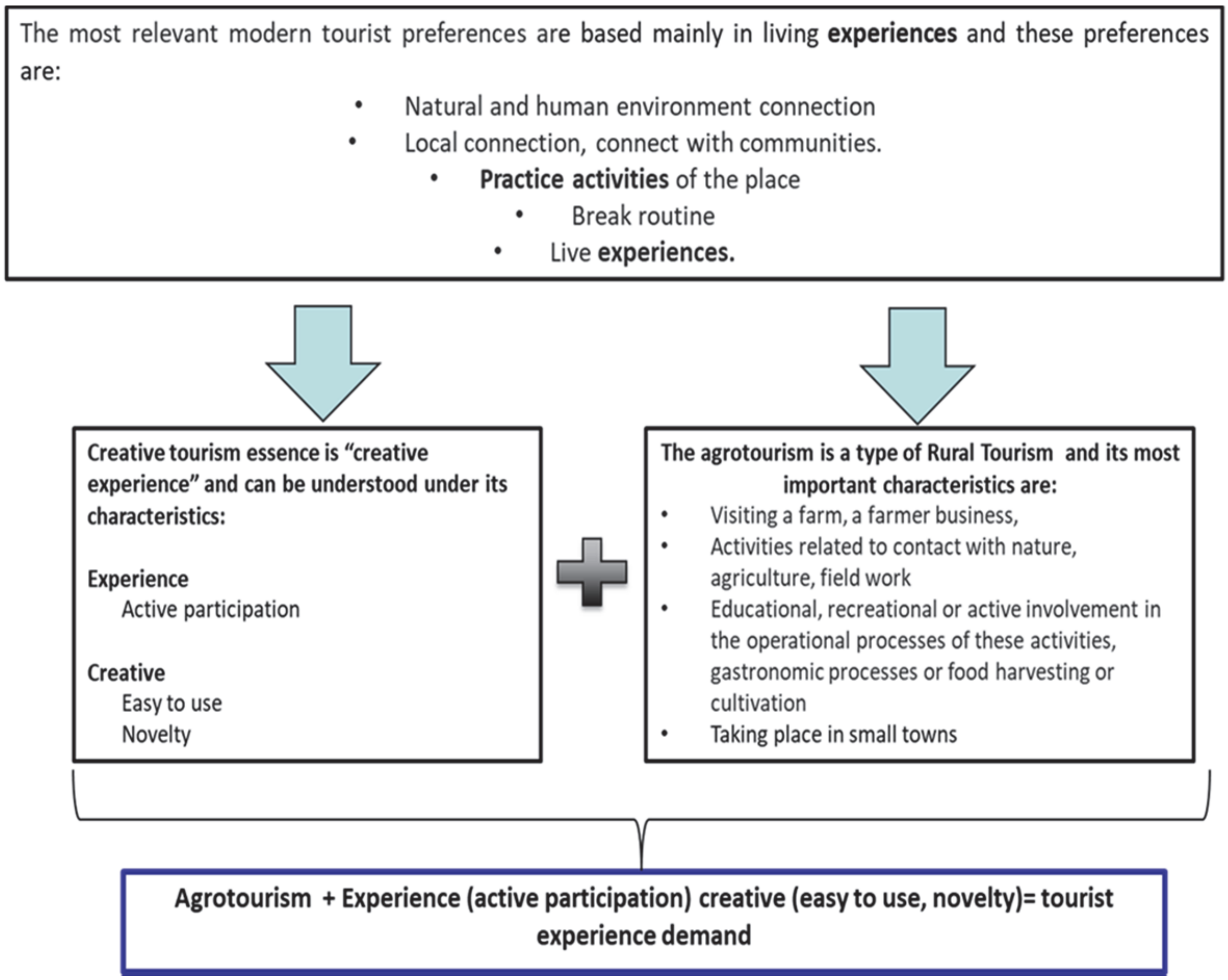
Designing successful strategies, and preservation of cultural identity to avoid commercial development is needed in developing countries (Ting et al., 2015). Rural tourism turns out to be a viable solution to achieve these objectives. By understanding the experiences of agrotourism, this considers the specific personality of those involved in the community. Tourist and natives have to physically and mentally coexist in agricultural activities, such as the cultivation of food, a collection of food, and gastronomic process (Daniloska et al., 2015). There is an immediate need to promote rural areas in the country which would take advantage of the benefits of the new modern tourism (Jaković et al., 2015). This type of tourism is based on natural resources and cultural norms that the community has with a particular focus on the promotion of the countryside and agriculture (main activity in rural areas). This is designed to meet tourist expectations, and create an economic activity based on the tourism industry. Also, this type of tourism is sustainable and is a viable source of income and jobs.

Creative tourism opens the door to a world of innovative strategies that revolutionize tourism in ways previously never experienced. Creative tourism is tourism that seeks the active participation of tourists, enhancing their creativity while learning and achieving local connection (Richards, 2007). Creative tourism is a form of tourism that listens to today's tourist, who theoretically defines how to achieve differentiation from one destination to another in a sustainable way and much more attractive to the tourist market. According to Kiralova et al., (2015), the expectations of visitors have changed, and they are looking for interactive experiences and personalized approach. Kiralova et al. (2005) explain the concept of creative tourism as an advantage for agrotourism. the

RESEARCH OBJECTIVE

This primary purpose of the research is to bring the principles of creative tourism, specifically its essence embodied in the concept of creative experience to agrotourism, to design experiences in agrotourism services considering the demands of today's tourists. The construct of “Experience” is defined under the subcategory of “active participation” from the perspective of involvement in the process of the workshops, and “creativity” under the categories of "Easy to use", defined as instructions, concrete steps, level of difficulty, and the level of “novelty”, defined as the differentiation between usual life and tourist experience. (Tan et al., 2013, Ting, 2015, Richards, 2011, Ohridska-Olson et al., 2010, Chang et al., 2014, Luo et al., 2016,). The main concepts of the research objective are defined in figure 1, The Agro-Creative Tourism Service Model.

FIGURE 1
AGRO-CREATIVE TOURISM SERVICE MODEL



After the literature reviewed the following hypotheses were defined:

H1: *The inclusion of creative tourism in the design of agrotourism services can satisfy tourist experience demands.*

H2: *The design of agrotourism services must include the "creative experience" to cover the demands of tourism experience in the agrotourism consumer.*

H3: *The variables "active participation" to define "experience" and "easy use" and "novelty" to define "creative" positively impact the satisfaction of the tourist who consumes agrotourism.*

H4: *The new modern tourist knows and has consumed rural tourism, specifically about agrotouristic services related to*

RESEARCH METHODOLOGY

The research methodology proposed is a combination of qualitative and quantitative techniques. The quantitative study was carried out in the city of Puebla and Cholula in State of Puebla, Mexico. Tourist centers in June of 2016 were used to collect a sample of 483 tourists through the application of a survey. The primary objective was to analyze how many tourists have experienced rural tourism, and what kind of rural tourism. The survey examined the characteristics of tourist who experience agritourism and their perceptions about the experiences.

As for the qualitative study, the study used narrative interviews. The narrative is a traditional way of communicating content with meaning that allows lived experiences to be transmitted (Horkheimer et al., 1975). Narratives can be gathered from different research sources such as observation, written documents, images, among others (Creswell JW, 2014). For this study, in June 2016, the narratives were taken from 30 tourists between the ages of 18 to 23 who reside in the State of Puebla, and the surrounding areas, particularly the La Preciosita community. Six native women offer agrotourism services (workshops), ointment, food and pulque preparation, embroidery and, a visit to the ecological reserve.

For the qualitative study, the following steps were followed: 1. The participants were given the definition of agritourism as, Tourists who have greater knowledge and awareness are more inclined to engage in the creative experience (Tan et al., 2013). 2. The participants then experienced the agritourism services (workshops) offered by the La Preciosita community such as embroidery, food and pulque preparation, field, ointment and, a visit to ecological reserve. 3. The participants were invited to narrate through texts, trajectory maps, and materials such as photos and videos and document their experiences of the lived process. All the participants were asked to narrate their experiences and represent them using graphics that would allow them to map their experience and identify the negative and positive points from their perspective as tourist consumers. They managed to collect 20 graphics and their interpretations, which were sent in digital format via email or shared in the cloud and addition 260 videos, photos and audios of their experiences during the consumption of the workshops.

QUANTITATIVE RESEARCH MAIN FINDINGS

Regarding the sample demographics, the average sample's age was 35 years old. Most of them (56%) were men, and just over 30% were students. Also, it is important to consider that 64% were national tourists and only 37% foreign tourists. Another significant statistic is that most of the tourist, 75%, travel accompanied. Tourists that stayed longer than six nights were older than 25 years old and most of them,70%, were foreigners.

The survey's results suggest that the subjects in the sample's motive to travel was mainly leisure (80%), and although the 67% of the tourists in the sample have never done rural tourism, most of them, 59%, would like to carry out activities of rural tourism at some point in time. Of the group that said they would want to try rural tourism, 43.4% said that they would like to try agrotourism as a type of rural tourism, 21.70% nature tourism, 20.85% gastro-tourism and little more than 10% food routes or other rural tourism activities. This is as an opportunity to support agrotourism development and to improve this tourism experience through active participation.

Of the rural tourists, more than 85% said they had done activities of observation, long walks or routes like the most mentioned.

Half of the tourists that have participated in rural tourism evaluated the experience as fun, creative and active participation.

More than 70% of the tourists who participated in rural tourism, evaluated the experience as an experience that provides them with cultural richness about the destination. Something interesting but maybe not surprising is that the most common ages of those who have done rural tourism are between 20 and 35 years old.

In conclusion, the results suggest that there is an interest in carrying out rural tourism activities. It was also indicated that the rural tourism activities that the tourist performs are related to agrotourism.

Tourists are willing and able to participate in creative tourism and are ready to experience the culture of rural Mexico.

QUALITATIVE RESEARCH MAIN FINDINGS

For the analysis and reporting of results the technique of Discourse Analysis was used, this technique can be studied as text analysis, content analysis, conversation analysis. "The core of the study of all textual analysis does not refer to the text itself, but to something that is within it, what the text means, to its meaning" (Martínez, 2004).

The graphs that represent the trajectory of the lived experience have the following characteristics: Maps define 7 to 20 positive, negative and neutral points by experience. Also, the experience by the national tourist can be encompassed in three stages according to the analysis of the 20 graphs received: Path to the community and arrival, consumption process of the workshop, a way of return and arrival to exit point.

In the stage "process of consumption of workshop," the texts and the graphs (experience journey maps) are analyzed, and it was determined that the tourists are looking for more participation and interaction in the workshops. Also, they are looking for active involvement, clear communication, and adequate equipment. The narratives also suggest that the tourist enjoyed mainly, the community sharing their knowledge and experience in the theme of the workshops and observing and interacting with the natural resources of the community.

In conclusion, the tourists appreciate the culture of communities and their natural resources. They are interested in learning the culture of the people, making connections with the local people, and contributing to economic development while having a different experience. The tourist's expectations in these agrotourism workshops are to enjoy the experience, know the instructions and have useful and enough equipment to participate. The tourists prefer interaction with the community as the novelty part of the experience as well as learning as part of the expectations of the agritourism workshop. It can be said that the analyzed variables of the concept of creative experience in agrotourism are tied with tourist preferences (according to previously defined categories and subcategories).

CONCLUSIONS AND RECOMMENDATIONS

The study will contribute to the theory of agrotourism models by incorporating variables that are based on the concept of creative experience within creative tourism: experience "active participation" and creative "easy to use" and "novelty."

It is expected to contribute to the theory of the design of agrotourism services through retaking the negative points in the analysis of the text and graphs (consumer journey maps).

Reaffirming theories that propose models of rural tourism with a focus on agrotourism that includes the community/community participation factor as a critical element for tourism while tourists are looking for novelty by connecting to local people. Mexico can develop different tourism with a sustainable and creative social impact, taking advantage of natural and cultural resources and generating differentiators in rural tourism and specifically in agrotourism.

LIMITATIONS AND DIRECTIONS FOR FUTURE RESEARCH

Although this study provides contributions to the understanding of the agrotourism service design, there are some limitations. First, the present qualitative research focuses only on the discourse analysis, which limits the different perspectives that content could provide. For this reason, further research should explore other narrative analysis techniques such as content holistic analysis, categorical structural analysis, and conversational analysis. Also, since the quantitative research was conducted in 3 different locations (tourist centers) by different applicants of the survey, a potential bias in the common method variance can be present, therefore controlling it in further research is suggested.

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Does Export Lead Economic Growth? Or Other Way? VEC-Granger Causality Evidence from Nine South-East Asian Countries

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Applying the Vector Error Correction (VEC) model and the VEC Granger causality/Wald Exogeniety tests, this paper investigated the causal relation between export, economic growth, and financial development of nine South and South East Asian countries during 1974-2015. The significance of the error correction term (ECT) established short and long run dynamics. The VEC Granger causality/Wald Exogeniety tests found bidirectional Granger causality between economic growth (GDP) and export (EXPRT) in Malaysia, Singapore, and Thailand. Unidirectional causality running from EXPRT to GDP was found in Bangladesh, Pakistan and Sri Lanka. Unidirectional causality running from GDP growth to export was found in India. Bidirectional Granger causality between financial development (BKCRDT) and export growth was found in Thailand. Pairwise Granger causality results, because of lack of cointegration, found that GDP Granger caused EXPRT in Indonesia.

The paper provides policy prescription that the governments should provide emphasis on promoting and protecting the export industries that promotes the economic growth of the countries.

INTRODUCTION

Whether foreign trade promotes economic growth or economic growth promotes trade is a debatable issue. There are two views. First view, originated and developed by the classical economics from Adam Smith and David Ricardo believe that 'trade is an engine of growth' i.e. trade promotes economic growth. Trade is beneficial for both nations. According to them, international trade provides several advantages. (i) International trade promotes export and thus economic growth by offering large markets by opening up the opportunities of global market to the entrepreneurs of the developing nations. (ii) Capital and technology are essential requirement for economic growth. Developing countries cannot import essential technology without adequate foreign currencies. Opening the channel of export helps getting foreign currency which provides the latest technology readily available to the businesses operating in these countries. (iii) Foreign trade results in increased competition both in the domestic and global markets. To compete with their global counterparts, the domestic entrepreneurs try to be more efficient and this in turn ensures efficient utilization of available resources and low cost of production. (iv) An increase in exports means increase in employment in export sector industries which, in turn, increase income and GDP. (vi) Reallocating resources from less productive sectors to such sector as exports industry and exports growth promotes GDP growth (Ben-David and Loewy, 1998). Lastly, exports support foreign exchange earnings which, in turn, assist importing capital goods.

Second view is that the trade is the result of economic growth i.e. economic growth leads to export and imports and thus trade is the result of economic growth. Economic growth and development put pressure on the opening of foreign trade. Thus, exports and imports are the consequence of economic growth.

In view of two opposing hypotheses, this paper empirically examines the causal relation as well as the direction of causality between export and economic growth applying the Vector Error Correction (VEC) and *the VEC Granger Causality/Block Exogeneity Wald Tests* in the South East Asian countries. South East Asian countries provide good ground for testing the hypothesis whether trade promotes economic growth or the other way. Because of (i) the level of economic growth and the volume of trade are not the same. Some of them are in the categories of developed nations. (ii) The level of economic and political stability are also different among these countries.

The paper is organized as: the survey of literature will be discussed in Section 2. Data and the methodology are described in Section 3. Empirical results and policy prescriptions are presented in Section 4. Conclusions are provided in Section 5.

SURVEY OF LITERATURE

Trade and economic growth literature is large. Josheski and Lazarov (2002) examined 208 regions and found that the ratio of trade volume (sum of export and import) to GDP has positive impact on economic growth. Awokuse (2005), Balassa (1978a; 1988b), Buffie (1992) found that the import of capital and intermediate goods stimulated domestic growth. Cross-country studies by Balassa (1988) and Moschos (1989) found supports for export led growth i.e. positive association between exports and economic growth. Islam (1998) causality test found that export expansion led economic growth in two-third of fifteen Asian countries. Similarly, studies such as Grabowski et al (1990), Sharma et al (1991) found support in favor of exports led to economic growth (ELG).

On the other hand, studies as Yamada (1998), Boltho (1996) and Afxentiou and Serletis (1991) found contrary evidences that economic growth led export-growth. Using the Granger causality test to Chines growth and foreign trade, Kwan and Cots mitis (1991) found one-way causal relation i.e. economic growth granger caused export-growth.

Others, Awokuse (2005); Giles and Williams (2000); Hatemi (2002) and found bi-directional causality between exports and economic growth.

Among third group, Shan and sum (1998) who found no causal relation between economic growth and export. Similarly, Jung and Marshal (1985) also found no causal relation between the growth and trade openness.

The short survey of literature found no consensus on this issue. Second, the survey shows no evidence of studies for ASEAN countries. Second, there was no evidence of studies that incorporated the period under this study.

DATA AND METHODOLOGY

Data

Time series data for gross domestic product (GDP), export (EX), and private bank credit (PBKCREDT) during 1970-2015[1] are obtained from the World Bank publication, International Financial Statistics. All series are annual.

Methodology

As the exogeneity among variables, foreign trade, economic growth and financial growth, are indeterminate, based on Sim (1980), this paper applied Vector Error Correction. As the VEC required stationarity and the cointegration test of the series, this paper applied augmented Dickey-Fuller (ADF) test, Phillip Parron (PP) test, the Dicky Fuller (DF) Unit Root with Break test, and Johansen (1991 and 1995a) cointegration test.

Unit Root Tests

Since the publication of Nelson and Plosser (1982), it is widely recognized that most time series macroeconomic variables contain unit root i.e. variable $X_t \sim I(1)$. So, this paper, first, examines the existence of unit root for variables: GDP, NX, and PBKCRDT using the augmented Dickey-Fuller (ADF) test, Phillip Parron (PP) test, and the Dicky Fuller (DF) Unit Root with Break test. In the following equation, the null hypothesis, α=0 is tested against the alternative hypothesis, α<0:

$$\Delta y_t = \alpha_0 + \beta t + \gamma y_{t-1} + \sum_i^k \lambda i \Delta y_{t-1} + \varepsilon_t \tag{1}$$

Schwarz Bayesian Criterion (SBC) will be used to determine the lag length or K. The results of ADF and PP test are presented in the empirical section.

Structural Break Test

The issue of testing the presence of unit root gained further momentum when Parron (1989) emphasized the importance of structural break while testing the unit root test. The structural break test is needed because the most macroeconomic series suffers some kind of shock i.e. structural break. So, the unit root test is not enough. Parron (1989) argued that conventional unit root tests have low power to reject the null hypothesis of nonstationarity when there is a structural break in the series. To overcome this problem, Parron (1989) modified the augmented Dickey Fuller (ADF) test by adding dummy variables to account for structural breaks at known points in time. Zivot and Andrews (1992) suggested that structural breaks in the series may be endogenous and they extended Parron's methodology to allow for the endogenous estimation of the break date. We employ the following two alternative models proposed by Zivot and Andrews (hereafter ZA) to examine the presence of unit root with structural break in the GDP, NX and PBKCREDT series:

$$\text{Model C: } \Delta GDP_t = \mu + \emptyset DU_t(\lambda) + \beta t + \gamma DT(\lambda) + \alpha \Delta NX_{t-1} + \Sigma C_j \Delta PBKCREDT_{t-j} + \varepsilon_t \tag{2}$$

where GDP_t, DU_t and DT_t are indicator variables for mean shift and trend shift for the possible structural break-date (*TB*) and they are described as following:

$$DT_t = \begin{cases} t - TB & if\ t > TB \\ 0 & otherwise \end{cases}$$

The null hypothesis of unit root (α=0) can be tested against stationary with structural breaks (α<0) in Equations 1 and 2. Every time points are considered as a potential structural break date in the ZA unit root test and the break date is determined according to minimum one-sided t-statistic. Results of Zivot-Andrew test are provided in Table 3.

The null hypothesis of unit root (α=0) can be tested against stationary with structural breaks (α<0) in Equations 1 and 2. Every time points are considered as a potential structural break date in the ZA unit root test and the break date is determined according to minimum one-sided t-statistic.

Cointegration Test

Having established that the variables are non-stationary I(1), there raises the possibility that they are co-integrated. Consequently, the co-integration properties of the variables are examined. It is, thus, necessary to determine whether there is at least one linear combination of these variables that is I(0). To investigate multivariate cointegration, this paper applies Johansen (1991 and 1995) VAR based Trace and Maximum Eigenvalue tests. Johansen (1991 and 1995a) cointegration is a VAR test and written in general form as:

$$\Delta Yt = \pi Yt - 1 + \sum_{i=1}^{p-1} \tau i \Delta Yt - i + \beta Xt + \varepsilon t \quad (3)$$

where $\Pi = \sum_{i=1}^{p} \beta i - I$ and $\tau = -\sum_{j=i+1}^{P} \beta j$

Based on Granger's theorem, if the coefficient matrix Π has reduced rank r<k, then there exists k x r matrices α and β each rank r such that $\Pi = \alpha\beta'$ and $\beta' yt$ is I(0). r is the number of cointegrating relations (the cointegrating rank) and each column of β is the cointegrating vector. The null hypothesis is that number of cointegration:

$$H_0: r=0, H_a: r=1$$

Vector Error Correction and Unrestricted VAR

Finally, this paper uses model for direction of causality. VEC is applied when series are found cointegrated tested by Johansen (1991 and 1995) VAR based Trace and Maximum Eigenvalue tests. Unrestricted VAR is employed to determine the direction of causality if the series are not cointegrated.

In terms of three variables, GDP, NX, and PBKCREDT, VECM can be written and estimated from:

$$\Delta GDP_t = \Sigma\alpha_1\Delta GDP_{t-I} + \sum\beta_1\Delta NX_{t-I} + \sum\gamma_1\ \Delta PBKCREDT_{t-1} + \lambda_1(GDP_{t-1} - NX_{t-1} - PBKCRDT_{t-1}) + u_t \quad (4)$$

$$\Delta NX_t = \Sigma\alpha_2\Delta NX_{t-I} + \sum\beta_2 GDP_{t-I} + \sum\gamma_2\ \Delta PBKCREDT_{t-1} + \lambda_2(NX_{t-1} - GDP_{-1}\ - PBKCREDT_{t-1}) + u_t \quad (5)$$

$$\Delta PBKCREDT_t = \Sigma\alpha_3\Delta PCREDT_{t-I} + \sum\beta_3\Delta GDP_{t-I} + \sum\gamma_3\ \Delta NX_{t-I} + \lambda_3(PBKCREDT_{t-1} - NX_{-1} - GDP_{-1}) + u_t \quad (6)$$

where λ_1, λ_2, and λ_3 are the coefficients of error correction term (ECT) for (GDP_{t-1}- NX_{-1} – $PBKCREDT_{-1}$), (NX_{t-1} –GDP_{-1} - $PBKCREDT_{-1}$), and ($PBKCREDT_{t-1}$- NX_{-1}– GDP_{t-1} respectively.

The null hypothesis, now that NX does not Granger cause GDP given PBKCREDT, H_0 ($\alpha_1 = \lambda_1 = 0$. That is, there are two sources of causation for economic growth, GDP, either through the lagged terms of ΔNX_{t-1} or through the lagged Error correction term, i.e. the lagged cointegrating vector.

In the Error Correction Model, the causality inference is obtained through the significance of λ_i. That is, the null hypothesis that NX and PBKCREDTdo not Granger cause GDP is rejected if λ_i, (the coefficient of error correction term) is statistically significant even if $\sum\beta_i$ and $\sum\gamma_i$ (from 4,5, and 6) are not jointly significant.

Granger causality direction is obtained from VER estimates applying Granger Causality/block exogeneity - tests.

EMPERICAL RESULTS

Results of unit root test for variables, GDP, EXPRT, and BKCRDT are provided in Table 1 and Table 2. Results of Johansen cointegration test for GDP, EXPRT, and BKCRDT are provide in Table 3. Result of VEC model is presented in Table 4.

TABLE 1
RESULTS PF UNIT ROOT TEST OF AUGMENT DICKY-FULLER (ADF) AND PHILLIP PARRON

		Augment Dicky Fuller Test $\Delta y_t = \alpha_0 + \beta t + \gamma y_{t-1} + \sum_i^k \lambda i \Delta y_{t-1} + \varepsilon_t$		Phillip Parron (intercept and Trend)	
Country	Variables	Level	1st difference	Level	1st difference
Bangladesh	GDP	6.44	0.93	8.01	-3.94**
	EXPRT	0.51	-1.57	-0.12	-3.65**
	BKCRDT	-2.03	-6.49*	-2.02	-6.58*
India	GDP	7.35	-3.30***	16.32	3.00
	EXPRT	-2.95	-2.26	1.83	-5.98*
	BKCRDT	-2.69	-3.09	-1.72	-5.76*
Pakistan	GDP	-0.03	-3.47***	0.22	-3.53**
	EXPRT	-2.35	-7.28*	-2.37	-7.28*
	BKCRDT	-2.50	-5.43*	-2.54	-5.71*
Sri Lanka	GDP	3.75	-4.40*	4.16	-4.34*
	EXPRT	-1.60	-6.14*	-1.45	-8.49*
	BKCRDT	-2.19	-7.43*	-2.33	-7.43*
Indonesia	GDP	1.23	-4.76*	0.89	-4.69*
	EXPRT	-1.11	7.93*	-0.99	-7.94*
	BKCRDT	-1.34	-4.85*	-1.39	-4.94*
Malaysia	GDP	0.51	-6.91*	0.71	-6.91*
	EXPRT	-1.97	-6.61*	-1.97	-6.61*
	BKCRDT	-2.07	-6.27*	-2.10	6.27*
Philippine	GDP	4.01	-3.67**	4.04	3.68**
	EXPRT	-142	-9.38*	-0.95	-15.03*
	BKCRDT	-2.45	-5.34*	-2.44	-5.33*
Singapore	GDP	2.82	-1.90	0.03	-6.85*
	EXPRT	-1.22	-6.43*	-1.20	-6.47*
	BKCRDT	-1.79	-6.89*	-2.14	-6.93*
Thailand	GDP	-1.76	-5.45*	-1.78	-5.45*
	EXPRT	-1.13	-7.54*	-1.00	-15.26*
	BKCRDT	-2.37	-4.74*	-2.11	-4.74*

*= Significant at 1 percent level, ** = Significant at 5 percent level, and *** = Significant at 10 percent level.

Results of the ADF and the Phillip Parron unit root tests for stationarity of series show all series are stationary at first difference except for the GDP and export (EXPRT) series of Bangladesh and the EXPRT and BKCRDT of India. However, the Phillip Parron test suggests that both GDP and EXPRT of Bangladesh and the EXPRT and BKCRDT of India are stationary at first difference.

TABLE 2
DF UNIT ROOT WITH BREAK TEST AND ZIVOT-ANDREW UNIT ROOT WITH STRUCTURAL BREAK TEST

		ADF Break Point Unit Root Test Null hypothesis: Variable has unit root Lag Length: (Automatic-based on SIC, Maxlag= 10		Zivot-Andrew Unit Root test with a structural Break Chosen Lag length: 1 (Max lag=4)
Country	Variables	Level	1st difference	Statistics
Bangladesh	GDP	-0.04	-6.73*	-0.58
	EXPRT	-4.51	-6.19*	-4.09
	BKCRDT	-5.80*	-8.90*	-5.39*
India	GDP	-0.10	-2.30	-0.26
	EXPRT	-6.13*	-6.63*	-3.88
	BKCRDT	-4.79	-5.98*	-3.73
Pakistan	GDP	-3.72	5.31*	-2.72
	EXPRT	-4.01	-9.55*	-3.33
	BKCRDT	-5.35**	-8.36*	-3.96
Sri Lanka	GDP	-2.98	-8.88*	-1.45
	EXPRT	-4.56	-9.66*	-3.39
	BKCRDT	3.30	-8.36*	-3.35
Indonesia	GDP	-1.98	-5.63*	-1.22
	EXPRT	-4.26	-9.13*	-3.75
	BKCRDT	-5.92*	-8.36*	-3.37
Malaysia	GDP	-1.03	-8.60*	-0.22
	EXPRT	-1.89	-7.54*	-2.88
	BKCRDT	-2.95	-9.01*	-3.88
Philippine	GDP	1.12	-4.39**	0.67
	EXPRT	-4.48	-10.00*	-3.53
	BKCRDT	-6.23*	-6.63*	-5.72*
Singapore	GDP	-1.69	-6.32*	-1.58
	EXPRT	-5.05**	-6.60*	
	BKCRDT	-3.09	-7.81*	-3.74
Thailand	GDP	-2.52	-6.66*	-3.05
	EXPRT	-3.49	-7.44*	-2.37
	BKCRDT	-2.09	-5.98*	-3.15

*= Significant at 1 percent level, ** = Significant at 5 percent level, and *** = Significant at 10 percent level.

Results of the ADF Break Point Unit test and the Zivot-Andrew unit root with structural break test show, in Table 2, that all series suffer from structural break. The null hypothesis of break point unit root is rejected for all series at first difference except for the GDP of India. Results of Zivot-Andrew test show that all series have structural break except for the bank credit (BKCRDT) of Bangladesh and Philippine.

TABLE 3
RESULTS OF JOHANSEN CO-INTEGRATION TESTS

Country	*Johansen Trace Test Series: GDP NX PBKCREDT*			*Johansen Maximum Eigen value Test Series: GDP NX PBKCREDT*		
	Hypothesized No of CE (S)	Trace Statistics	Critical Value	Hypothesized No of CE (S)	Max-Eigenvalue Statistics	Critical Value
Bangladesh	R=0	64.46*	29.79	R=0	48.61*	21.13
	R=1	15.85**	15.48	R=1	12.17	14.26
	R=2	3.68	3.84	R=2	3.68	3.84
India	R=0	30.74**	29.79	R=0	26.22*	21.13
	R=1	4.51	15.49	R=1	2.54	14.26
	R=2	1.96	3.84	R=2	1.96	3.84
Pakistan	R=0	31.07**	29.79	R=0	15.07	21.13
	R=1	16.00**	15.49	R=1	10.29	14.26
	R=2	5.70**	3.84	R=2	5.70**	3.84
Sri Lanka	R=0	33.06**	29.79	R=0	20.69	21.13
	R=1	12.36	15.49	R=1	11.54	14.26
	R=2	0.81	3.84	R=2	0.81	3.84
Indonesia	R=0	21.17	29.79	R=0	12.22	21.13
	R=1	8.94	15.49	R=1	8.94	15.49
	R=2	1.88	3.84	R=2	1.88	3.84
Malaysia	R=0	31.82**	29.79	R=0	21.43***	21.13
	R=1	10.79	15.49	R=1	9.74	14.26
	R=2	1.05	3.84	R=2	1.05	3.84
Philippine	R=0	19.60	29.79	R=0	10.66	21.13
	R=1	8.93	25.49	R=1	6.51	14.26
	R=2	2.41	3.84	R=2	2.41	3.84
Singapore	R=0	25.96**	24.27	R=0	22.08*	17.79
	R=1	3.87	12.32	R=1	3.02	11.22
	R=2	0.85	4.14	R=2	0.85	4.14
Thailand	R=0	35.33*	24.27	R=0	26.88	17.79
	R=1	8.44	12.32	R=1	8.44	11.22
	R=2	0.32	4.12	R=2	0.32	4.12

*= Significant at 1 percent level, ** = Significant at 5 percent level, and *** = Significant at 10 percent level.

Results of both Trace test and Eigen value test, in Table 3, shows that all series for GDP, EPRTX, and BKCRDT are cointegrated for all countries except for Indonesia and Philippine. The rejection of null hypothesis of no cointegration for all other countries provides strong support for conintegration. The establishment of cointegration justified the application of VEC model. Results of VEC are provided in Table 4.

Failures to reject the null hypothesis of no cointegration among the series for Indonesia and Philippine suggests the application of pairwise Granger causality test instead of the VEC Granger causality/Wald Exogeniety tests. Results of pairwise Granger causality test was provided in Table 6.

TABLE 4
RESULTS OF VECTOR ERROR CORRECTION MODEL

Countries	VEC Equation	Coefficient of ECT []	R^2	F-statistics
Bangladesh	D(GDP)	-0.10 [4.19]*	0.95	102.77
	D(EXPRT)	-0.03	0.37	2.64
	D(BKCRDT)	-0.000	0.08	0.43
India	D(GDP)	0.03[5.50]*	0.88	39.27
	D(EXPRT)	-0.006[-2.04]*	0.75	16.58
	D(BKCRDT)	-0.0000[-3.55]*	0.36	3.01
Pakistan	D(GDP)	-0.06[-0.74]	0.67	11.12
	D(EXPRT)	-0.37[-3.55]*	0.10	0.66
	D(BKCRDT)	0.000[0.52]	0.27	2.07
Sri Lanka	D(GDP)	-0.002 [-3.81]*	0.77	19.19
	D(EXPRT)	0.000 [1.67]	0.20	1.36
	D(BKCRDT)	-0.000[-1.05]	0.18	1.20
Malaysia	D(GDP)	-0.29[-4.48]*	0.51	5.75
	D(EXPRT)	0.22[2.05]*	0.12	0.77
	D(BKCRDT)	-0.000[-0.34]	0.08	0.49
Singapore	D(GDP)	-0.11[-4.65]*	0.63	7.08
	D(EXPRT)	0.27[3.88]*	0.60	6.63
	D(BKCRDT)	0.000[0.37]	0.22	1.22
Thailand	D(GDP)	0.14[1.59]	0.37	3.13
	D(EX)	-0.48[-5.70]*	0.57	7.22
	D(BKCRDT)	0.000[0.42]	0.45	4.38

[]=t-statistics, *= Significant at 1 percent level, ** = Significant at 5 percent level, and *** = Significant at 10 percent level.

Results of the error correction model, reported in Table 4, shows that the coefficient of the ECT for GDP was negative, as expected in the VEC model, and the coefficient of ECT was significant for Bangladesh. India, Sri Lanka, Malaysia, and Singapore, Thailand.

The coefficients of the ECT associated with export (EXPRT) were negative and significant for India, Pakistan, and Thailand.

The coefficient of the ECT term of BKCRDT was significant for India. The significance of the ECT suggests that there was short term dynamics. If the series are deviated from long run equilibrium, the variables will come back to equilibrium. The amount of time needed to restore equilibrium for variables can be determined by (1/coefficient).

TABLE 5
VEC GRANGER CAUSALITY/ BLOCK EXOGENEITY WALD TEST

		Dependent variables			
		$Chai^2$ Statistics			
	Independent variables	D(GDP)	D(EXPRT)	D(BKCRDT)	Causality direction
Bangladesh	D(GDP)		2.67	0.09	
	D(EXPRT)	8.53*		0.87	EX→GDP
	D(BKCRDT)	3.28	0.13		
India	D(GDP)		28.37*	14.16*	GDP→EXPRT GDP→BKCRDT
	D(EXPRT)	1.40		0.66	
	D(BKCRDT)	1.03	8.23*		BKCRDT→EXPRT
Pakistan	D(GDP)		1.34	1.03	
	D(EXPRT)	5.58*		2.11	EXPRT→GDP
	D(BKCRDT)	4.39	0.27		
Sri Lanka	D(GDP)		0.09	2.70	
	D(EXPRT)	10.28*		3.79	EXPRT→GDP
	D(BKCRDT)	4.53***	0.78		BKCRDT→GDP
Malaysia	D(GDP)		4.51***	0.43	GDP→EXPRT
	D(EXPRT)	7.99*		0.29	EXPRT→GDP
	D(BKCRDT)	0.01	0.24		
Singapore	D(GDP)		25.30*	3.09	GDP→EXPRT
	D(EXPRT)	13.08*		2.07	EXPRT→GDP
	D(BKCRDT)	3.41	3.54		
Thailand	D(GDP)		20.66*	9.40*	GDP→EXPRT
	D(EXPRT)	5.29***		12.39*	EXPRT→GDP
	D(BKCRDT)	2.27	13.16*		BKCRDT→EXPRT→BKCRDT

*= Significant at 1 percent level, ** = Significant at 5 percent level, and *** = Significant at 10 percent level.

Results of vector error correction Granger causality tests, in Table 5, showed that EXPRT Granger caused the economic growth (GDP) in Bangladesh, Pakistan, Sri Lanka, Malaysia, Singapore, and Thailand. The causation of economic growth (GDP) through the export of six out of nine South and South East Asia countries during 1967-2014 supports the hypothesis that trade is the promotes growth.

On the other hand, Table 5 shows that the GDP of India, Malaysia, Singapore, and Thailand Granger caused export for these countries.

Thus, bidirectional Granger causality between GDP and export (EXPRT) was found in Malaysia, Singapore, and Thailand.

Table 5 shows that bank financing (BKCRDT) Granger caused economic growth (GDP) in only Sri Lanka. Economic growth Granger caused bank financing growth only in India.

Bank financing growth (BKCRDT) Granger caused exports (EXPRT) in India and Thailand. On the other hand, export (EXPRT) Granger caused financial development in Thailand. Thus, bidirectional Granger causality between financial development (BKCRDT) and export growth was found in Thailand.

Summary: Bidirectional Granger causality between GDP and export (EXPRT) was found in Malaysia, Singapore, and Thailand. Unidirectional causality running from EXPRT to GDP was found Bangladesh, Pakistan and Sri Lanka. Unidirectional causality running from GDP growth to export was found in India. Bidirectional Granger causality between financial development (BKCRDT) and export growth was found in Thailand.

TABLE 6
PAIRWISE GRANGER CAUSALITY TESTS

	Indonesia	Philippine
Null Hypothesis	F-statistics	F-statistics
EXPORT does not Granger Cause GDP	0.44	1.82
GDP does not Granger Cause EXPORT	14.77*	1.33
BKCRDT does not Granger Cause GDP	0.99	0.81
GDP does not Granger Cause BKCRDT	0.23	1.06
BKCRDT does not Granger Cause EXPORT	0.37	0.98
EXPORT does not Granger Cause BKCRDT		1.15

*= Significant at 1 percent level, ** = Significant at 5 percent level, and *** = Significant at 10 percent level.

Policy Prescriptions

Government Bangladesh, Pakistan, Sri Lanka, Malaysia, Singapore, Thailand where export promoted economic growth should lay emphasis on promoting and protecting export industries that supported economic growth. The government should protect and support the export-import oriented industries of the country.

The government of the countries where bank credit promoted economic growth should undertake policies to provide incentive and encouragement to the local financial institutions for providing adequate credits to meet the growing needs of the export-import industries.

CONCLUSIONS

As the exogeneity among variables, export, economic growth and financial growth are indeterminate, this paper applied Vector Error Correction, as Sim (1980) recommended. As VEC required the test of stationarity and the cointegration in the series, this paper applied ADF and PP test for testing the unit root test as well as structural break test. Results showed that all series stationary at first difference. The null hypothesis of unit root at first difference was rejected. Results of the structural break showed that the series had break at level.

Johansen cointegration test was applied in testing whether the series were cointegrated. Results of the Johansen cointegration showed that the series were cointegrated for all countries, except Indonesia and Philippines. Lack of cointegration suggested the application of pairwise Granger causality test. Results of the VEC showed that the coefficient of the ECT for GDP was negative was significant for Bangladesh, India, Sri Lanka, Malaysia, and Singapore. The coefficients of the ECT of export (EX) and BKCRDT were negative and significant for India, Pakistan, and Thailand. The significance of the ECT suggests that there was short term dynamics. If the series are deviated from long run equilibrium, the variables will come back to equilibrium. The amount of time needed to restore equilibrium for variables is determined by (1/coefficient).

The direction of causality was established by the VEC Granger Causality/Block Exogeneity Wald Test. Results of vector error correction Granger causality tests showed that EXPRT Granger caused the economic growth (GDP) in Bangladesh, Pakistan, Sri Lanka, Malaysia, Singapore, and Thailand. The causation of economic growth (GDP) through the export of six out of nine South and South East Asia countries during 1967-2014 supports the hypothesis that trade is the promotes growth.

On the other hand, the GDP of India, Malaysia, Singapore, and Thailand Granger caused export for these countries. Thus, bidirectional Granger causality between GDP and export (EXPRT) was found in Malaysia, Singapore, and Thailand.

Table 5 shows that bank financing (BKCRDT) Granger caused economic growth (GDP) in only Sri Lanka. Economic growth Granger caused bank financing growth only in India.

Bank financing growth (BKCRDT) Granger caused exports (EXPRT) in India and Thailand. On the other hand, export (EXPRT) Granger caused financial development in Thailand. Thus, bidirectional Granger causality between financial development (BKCRDT) and export growth was found in Thailand.

The policy prescription this paper suggest that the government should protect and support the export-oriented industries where EXPRT promotes economic growth of the country. The government should undertake policies to provide incentive to the local financial institutions for providing the adequate credit to export industries where bank credit promotes economic growth and trade.

ENDNOTE

1. All countries don't have data series starting from 1970 and ending at 2015. The variation of year, if any, is mentioned

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Entrepreneurial Opportunity Recognition in a Declining City: Shrewd Choice or Wishful Thinking?

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Research on entrepreneurial opportunity recognition has tended to ignore the context variable of place (local city) or to explore opportunity recognition in large, thriving city settings. We describe effects of the declining city on nascent entrepreneurship. We then develop propositions for how the nascent entrepreneur's sense of the home city's decline weakens the otherwise positive link between four antecedents and entrepreneurial opportunity recognition. We close with a discussion of universities' entrepreneurship involvement and collegiate entrepreneurship education in declining cities and describe the Invent Penn State initiative in Scranton, Pennsylvania.

INTRODUCTION

Entrepreneurial opportunity recognition (also sometimes called opportunity identification) in declining cities is this article's focus. For our purposes, we adopt Shane and Venkataraman's (2000) view, as well as Singh's (2001) view, and define an entrepreneurial opportunity as a situation in which services, finished products and components, unfinished goods, and process technologies or know-how—whether innovative and new or at least an improvement on existing services and products—can feasibly be sold for more money than it costs to produce those things. Entrepreneurial opportunity recognition holds a prominent place in research on nascent entrepreneurship (Ardichvili, Cardozo, & Ray, 2003; Sahai & Frese, in press; Shane & Venkataraman, 2000; Wennekers & Thurik, 1999). This is appropriate, for venture opportunities must first be recognized (or created through enactment in some cases; Dyer, Gregersen, & Christensen, 2008; Edelman & Yli-Renko, 2010; Hayton, Chandler & DeTienne, 2011) and vetted for feasibility before the entrepreneur can exploit them through resource acquisition and application, planning and organization, product or service development, marketing, and so forth (Kickul, Gundry, Barbosa, & Whitcanack, 2009; Kuckertz, Kollmann, Krell, & Stöckmann, 2017; McCline, Bhat, & Baj, 2000; Shane & Venkataraman, 2000).

Some of the research on opportunity recognition, especially that which focuses on the nascent entrepreneur's cognition, seems to ignore some contextual factors that may affect cognition as much as or more than dispositional factors do (Wang, Ellinger, & Wu, 2013), even as other research has stressed that situational cues do not uniformly inspire entrepreneurial behavior (Shane & Venkataraman, 2000). The behaviors and information processing Kuckertz et al. (2017) initially cited as defining entrepreneurial opportunity recognition included searching, gathering information, being alert, evaluating, and problem solving (cf. Ardichvili et al., 2003; Dyer et al., 2008). We assume these activities occur in a context in which factors external to the person may have influence on both the behaviors and inferences stemming from them. One such contextual factor is the nature of the opportunity's locale with respect to things like local economic conditions and population growth (McKeever, Jack, & Anderson, 2015; Wang et al., 2013). Studies have addressed entrepreneurship in urban areas and rural areas, and in nations and regions with emerging economies, for instance. As to urban settings, economists studying entrepreneurship in cities have especially paid attention to things like agglomeration effects, small-business networking and the spillover of entrepreneurial ideas and knowledge in densely populated cities, and entrepreneurs' spatial (geographical) mobility and concentration (Bosma & Sternberg, 2014; Coomes, Fernandez, & Gohmann, 2013; Fritsch & Storey, 2014; Glaeser & Kerr, 2009).

Most often the urban settings in opportunity recognition research, if acknowledged at all, are thriving cities. In many studies' cases, this may be a confound owing to the dynamic, growing industry sectors involved, as thriving cities and robust metropolitan regions are the kinds of locales that can and do attract, for instance, high-technology industries and related startup ventures (Bosma & Sternberg, 2014; Glaeser & Kerr, 2009). Not every city is growing and thriving, however. Some cities are slowly declining from past statures of higher prominence, bigger population, larger industry base, growing wages, and other features that made for vibrant local conditions. We submit that the conditions in and histories of such declining cities can affect entrepreneurial opportunity recognition in ways different even from opportunity recognition in, say, emerging economies' regions and rural areas' very small towns. Regions with emerging economies are, by definition, transitioning upward, however haltingly, from a base and history of underdevelopment (Weinstein & Partridge, 2011). Rural areas and their small towns are marked by generally chronic sparseness of industry and low scale of entrepreneurial opportunity stretching over decades and centuries. Declining cities, however, once had a heyday, a more promising and vibrant past profile than what they have now. What we wonder is how the recognition or sense of the city's decline affects would-be entrepreneurs' perspectives on entrepreneurial opportunity. Researchers have acknowledged that entrepreneurial opportunity recognition can be subjective (Edelman & Yli-Renko, 2010; Keh, Foo, & Lim, 2002; Kibler, Kautonen, & Fink, 2014; Shane & Venkataraman, 2000), so we suspect that declining cities present cues that affect opportunity recognition.

We see this issue of entrepreneurial opportunity recognition in declining cities, and whether researchers pay attention to it, as part of the broader issue Welter, Baker, Audretsch, and Gartner (2017) noted in their essay on everyday entrepreneurship. Welter et al. criticized the relatively narrow overemphasis in much entrepreneurship research on high-growth, high-technology firms with substantial venture capital funding (such firms represent a very small proportion of entrepreneurial ventures and small businesses; Aldrich & Ruef, 2018). In addition to focusing on Silicon Valley-style entrepreneurship, these authors encouraged more diversity in entrepreneurship research, such that micro-businesses, non-growing family firms, goals other than wealth and jobs creation, informal venturing, and so forth also receive attention. Aldrich and Ruef's (2018) criticism of entrepreneurship research essentially sounded these same notes, as they observed that too much research attention has been paid to the rare startup firm that has extremely high growth, venture capitalization, and eventual public stock offerings, and too little research attention has been paid to the far more numerous entrepreneurial startups with more typical small-firm funding and growth.

We suggest Welter et al.'s (2017) recommendation be extended to investigating entrepreneurship in declining cities, unexciting as that may seem to many. As Anderson, Warren, and Bensemann (in press) have noted, researchers usually do not account for the influence of place on entrepreneurship (cf. Bosma & Sternberg, 2014; McKeever et al., 2015). The relative lack of research on entrepreneurial opportunity recognition in declining cities suggests the entrepreneurship research community may be paying mere lip service to what urban planning researchers and economists who study urban policy, for instance, constantly note about the potential for entrepreneurship to revitalize declining urban areas (Fritsch & Storey, 2014).

We will briefly discuss declining cities and their nascent entrepreneurs' perceptions of the decline. We will then review some antecedents of entrepreneurial opportunity recognition and state a few propositions as to how nascent entrepreneurs' perceptions of their base city's decline may moderate the relationship between antecedents and opportunity recognition. Finally, we will comment on some implications for entrepreneurship education in declining cities and local universities' role in promoting entrepreneurship in such contexts.

DECLINING CITIES

A number of formerly prominent and vital U.S. cities have declined in recent decades, with the most obvious indicator of decline being sustained population loss driven by economic downturn. Although urban population loss can coincide with economic prosperity in that same city (Hartt, 2018), it is the exception and not the rule in the American cities we are describing. Population has declined by more than half in "Rust Belt" cities like Buffalo, New York; Pittsburgh, Pennsylvania; Gary, Indiana; Cleveland, Ohio; Detroit, Michigan; and Saint Louis, Missouri (Jacobs, 2018). These and other cities regularly appear in lists of notably declining American cities. We are especially familiar with Scranton, Pennsylvania, a city that lost population for more than eight decades before beginning to level off in the past eight years ("Scranton Population," 2018). Still Pennsylvania's sixth-largest city, Scranton has experienced population decline of over 46 percent from its 1930 peak of 143,333 people to its estimated 2017 population of approximately 77,605. The 2 percent gain in Scranton population since 2010 is well below the 5.5 percent growth of the U.S. population as a whole for that same time period. Scranton's median housing values are more than 40 percent below comparable U.S. figures, 21.6 percent of Scranton adults have a bachelor degree or higher (versus 30.3 percent in the U.S. as a whole), and Scranton's 23.1 percent poverty rate is almost double the overall U.S. poverty rate (U.S. Census Bureau, 2017). The proportion of households that are middle-income is also shrinking in Scranton (O'Connell, 2018). Scranton's average wages ranked near the bottom (94th) of 100 metropolitan areas the Bureau of Labor Statistics tracked in 1980 and ranked still lower (97th) in 2010 (Weinstein & Partridge, 2011). On the whole, Scranton's decline appears to be marked economically as well as in terms of the shrinking population, thus fitting modern urban shrinkage trajectory typologies that emphasize both demographics and economics in defining urban decline (Hartt, 2018).

The anthracite coal industry that fueled Scranton's former stature all but vanished decades ago, followed by a steep decline in railroad activity as trucking replaced it, as well as departure of textile and apparel manufacturing with no replacement by other major industries. These developments translated to massive job losses over several decades (Miller, 1989). Service industries have grown in post-industrial Scranton, yes, but as is often the case with declining cities, the associated employment gains have not offset the loss of jobs tied to coal mining, railroads, and manufacturing (Martinez-Fernandez, Audirac, Fol, & Cunningham-Sabot, 2012). Scranton's decline has been a slow, steady one, which is relevant to our discussion because gradual population decline in urban areas has been found to be more negatively associated with new firm startups than strong, dramatically steep population decline (Delfmann, Koster, McCann, & Van Dijk, 2014).

The Declining City's Effects on Entrepreneurship

We proceed from the position that local conditions and the declining city's economic history matter greatly to entrepreneurship's enactment and the formation of entrepreneurial self-identities (Anderson et al., in press; Delfmann, 2015). Thus, we clearly see that Scranton's current profile matches indicators that bode poorly for entrepreneurship. For instance, concentrations of diverse industries in large, dense, urban locations provide a host of advantages to startup firms and opportunities to nascent entrepreneurs who seek them (Bosma & Sternberg, 2014; Delfmann, 2015). Entrepreneurs are drawn to cities that are growing in both population and jobs, that display income and housing price growth, and that offer a better-educated labor pool (Weinstein & Partridge, 2011), none of which describes Scranton. Instead, Scranton is what Reckien and Martinez-Fernandez (2011) labeled a "shrinking city," and shrinking cities are often characterized by widespread reluctance toward entrepreneurial business venturing, a holdover from generations of residents having lifestyles as dependent employees of healthy industries. When the industries leave or fail and jobs vanish in shrinking cities, the work force often displays a stubborn devotion to place and former ways of working, even though the conditions that supported those old ways are gone (McKeever et al., 2015). Entrepreneurship is foreign to what such people in shrinking cities understand, such that their likelihood of recognizing and being interested in entrepreneurial opportunities is low on average.

This relative disinterest in entrepreneurship in declining cities reflects an issue with regional social legitimacy of entrepreneurship that Kibler et al. (2014) researched. Kibler at al. described how subjective views of the desirability and appropriateness of entrepreneurship are influenced by the city's socioeconomic character and can influence nascent entrepreneurs' beliefs about and intentions toward new business creation. Kibler et al. used Ajzen's (1991) theory of planned behavior to explain startup intentions, noting that the entrepreneur's attitude toward business startup efforts, beliefs about referent others' views of entrepreneurship, and perceived ability to take the actions needed to start a new firm (perceived behavioral control) all influence intentions to search for and to evaluate entrepreneurial opportunities and to exploit worthwhile ones. Ajzen (1991) likened perceived behavioral control to domain-specific self-efficacy (in this case, nascent entrepreneurs' beliefs that they can, indeed, recognize entrepreneurial opportunities and take actions and create conditions that permit business startup or innovation; McGee, Peterson, Mueller, & Sequeira, 2009).

History and conditions in a declining city like Scranton may operate to weaken the social legitimacy of entrepreneurship and to quell entrepreneurial intentions. Scranton's slow, steady decline has not made it particularly normative for residents, many already disinterested in entrepreneurship, to believe that entrepreneurship can succeed. In Kibler et al.'s (2014) terms, if regional social legitimacy of entrepreneurship is low in Scranton, would-be entrepreneurs will be less convinced about tackling a new venture. Even if aspiring entrepreneurs in Scranton very much like the idea of starting a business and perhaps have friends and family who are at least supportive of the idea, the entrepreneurs may sense little behavioral control simply because of practical, risky realities of Scranton's shrinking customer base (especially a concern if the interest is in business-to-consumer ventures like retail stores or restaurants), relatively sluggish industry base (which implicates potential supplier difficulties), and modestly equipped labor supply (Delfmann, 2015; Delfmann et al., 2014; Edelman & Yli-Renko, 2010).

Regarding this modestly equipped labor supply, we should note that not everyone is stubbornly devoted to place in shrinking cities. The residents who leave to live and to work elsewhere tend to be relatively better educated, such that the declining city loses human capital as well as financial capital (Delfmann, 2015; McKeever et al., 2015). Levels of entrepreneurship, intellectual engagement, and innovation decline (Martinez-Fernandez et al., 2012). This drain on the city's human capital also renders the available labor pool less qualitatively diverse and less capable, and a lack of qualified labor is a negative when evaluating recognized entrepreneurial opportunities (Bosma & Sternberg, 2014; Delfmann, 2015; Fritsch & Storey, 2014).

Charging Forward Despite the Hurdles

On balance, we think a declining city context makes entrepreneurial opportunity recognition and exploitation less likely because of practical resource limitations that such a context poses and because of nascent entrepreneurs' typical perceptions (Edelman & Yli-Renko, 2010). Nascent entrepreneurs are certainly interested in entrepreneurship and are beginning their searches for opportunities and perhaps supporting capital, but they are not yet at the point of business startup (McGee et al., 2009). Thus, their entrepreneurial future is precarious at best, and many would balk at the challenges of venturing in a declining city. As noted above, however, opportunity recognition can be quite subjective. The characteristics of declining cities that we have described may not necessarily dissuade all entrepreneurship. For one thing, some nascent entrepreneurs can display strong entrepreneurial persistence despite obvious hurdles (Meek & Williams, 2018). Research has established that opportunity-driven entrepreneurs are especially optimistic and sometimes badly overestimate their chances for success, being inclined to start a venture despite warning signs that advise against it (Keh et al., 2002; Shane & Venkataraman, 2000). This may amount to little more than wishful thinking when the eager entrepreneur misjudges the entrepreneurial opportunity or hopes for outcomes rendered highly unlikely by the declining city's limitations.

The city's decline, when extended to a given person's job loss, can trigger a necessity-driven startup that, although often not the entrepreneur's preferred career choice, nonetheless represents entrepreneurial activity (Delfmann et al., 2014). In such a case, the choice of starting a micro-business may be a sober choice and reflect not simply desperation for replacement income, but a shrewd evaluation of the entrepreneurial opportunity. Nothing precludes the necessity-driven startup from growing well beyond micro-business status and size *per se*, just as nothing guarantees that an opportunity-driven entrepreneur will have a growing, successful firm (Shane, 2009; Welter et al., 2017).

A recently published typology of early-stage entrepreneurial venture types describes survival, lifestyle, managed-growth, and aggressive-growth ventures (Morris, Neumeyer, Jang, & Kuratko, 2018). The survival (essentially self-employment providing basic subsistence, and possibly informal) and lifestyle (stable business model, revenues, and employee headcount; very much locally focused) types of entrepreneurial efforts may be particularly compatible with emergent venturing in a declining city like Scranton, as both remain deliberately small. Although much entrepreneurship research and promotion is dedicated to scalable, growth-oriented firms, strong evidence exists that the higher proportion of established small firms in a region, the higher the new-firm startup rate is (Glaeser & Kerr, 2009). Indeed, small-firm entrepreneurs may not define growth purely in headcount terms at all (Achtenhagen, Naldi, & Melin, 2010; Wiklund, Davidsson, & Delmar, 2003), and they may not define success solely in extrinsic terms of growing wealth creation (McKeever et al., 2015; Welter et al., 2017; Wiklund et al., 2003; Yusuf & Schindehutte, 2000). Thus, a declining city like Scranton may still provide such entrepreneurs a valid setting for their efforts.

Not all would-be entrepreneurs in a declining city like Scranton would necessarily be equally influenced by the city's objective history and tepid entrepreneurial culture. Scranton is not a "destination location" in the sense of the cities that attract startup activity as described in economics studies. New residents do come to Scranton from time to time, though. Having not grown up in the region or lived in Scranton long, these people may very well detect entrepreneurial opportunities, even ones associated with the decline (e.g., opportunity to provide elder-care services to aging, long-term residents whose adult children have moved far away in search of opportunity). What may matter is how strongly a given person perceives Scranton is declining; there is objective context, and then again, there is *perception* of context (Edelman & Yli-Renko, 2010). Researchers could gauge this simply enough by questionnaire, perhaps with items like these ten items, each derived from economics research sources cited above that describe declining cities and locales (reverse-worded items are marked with [R]):

1. Scranton's industries are growing. [R]
2. Scranton is not generating many new products and services.
3. Technology innovation is high in Scranton. [R]
4. Scranton population is shrinking.
5. Scranton housing prices are rising. [R]
6. Wages and salaries in Scranton are low compared to other cities.
7. Scranton's job market is relatively weak.
8. There are a lot of visible signs of development in Scranton. [R]
9. Scranton's business base is not growing.
10. Poverty seems to be increasing in Scranton.

PROPOSED MODERATING EFFECTS

As we stated earlier, we wonder how the recognition or sense of the city's decline affects would-be entrepreneurs' perspectives on entrepreneurial opportunity. Can nascent entrepreneurs' perceptions of their base city's decline moderate the relationship between antecedents and opportunity recognition? We draw on theories of social cognition, cognitive learning, information processing, social networks, planned behavior, and entrepreneurial self-efficacy to address this question below.

The line between entrepreneurial opportunity recognition and the early evaluation of that opportunity's feasibility may be blurry at times since some define judgment of the opportunity's feasibility as part of opportunity recognition, but we know these typically come before concrete actions toward exploiting the opportunity (Kuckertz et al., 2017; Shane & Venkataraman, 2000; Singh, 2001). Terminating an entrepreneurial effort during early exploitation is certainly possible, but we are more concerned with what conditions nascent entrepreneurs' sensitivity to opportunities earlier in the process, as we think much more suppression of entrepreneurship likely occurs when people do not even detect opportunity or when they immediately deem the opportunity too weak or too risky to pursue further, thereby curbing any enactment or ambitious creation of feasible opportunity (Edelman & Yli-Renko, 2010; Keh et al., 2002).

Schematic Knowledge and Deliberate Search

Entrepreneurship research on opportunity recognition has identified a number of antecedents. For instance, Shane and Venkataraman (2000) held that the would-be entrepreneur with schematically organized prior information necessary for detecting an opportunity and with certain cognitive features (e.g., ability to visualize means-ends relationships or to combine concepts and data in novel ways) is more likely to detect an entrepreneurial opportunity. Regarding the former (schematic prior knowledge), we note that schemata, or cognitive structures and mental models that reflect the person's knowledge about, in this case, opportunity situations (Fiske, 1995), can be underdeveloped or nonexistent in people who have lived and worked all or most of their lives in a declining city. Lacking exposure to entrepreneurship generally and to a setting that frequently presents robust, exploitable opportunities hinders such a person from forming a relevant knowledge structure or mental framework in the first place and impedes assimilation of new information with prior knowledge (Davidsson & Honig, 2003; Gielnik, Krämer, Kappel, & Frese, 2014; Wang et al., 2013).

Furthermore, innovation-oriented entrepreneurs supposedly observe their environment and are alert to opportunities they detect, spending extra time intensely searching for information that may illuminate opportunity (Dyer et al., 2008; McCline et al., 2000). However, a sense that one's local city is declining does not predispose that person to be on the lookout or systematically search for opportunities, such that whatever prior knowledge the person may have goes untapped. Thus, the link between schematic prior knowledge and entrepreneurial opportunity recognition, as well as between alert searching and opportunity recognition, should be weakened in persons who perceive their home city as declining.

Proposition 1: *Perceiving one's home city as a declining city will weaken the otherwise positive link between prior knowledge relevant to an entrepreneurial opportunity and recognition of that opportunity.*

Proposition 2: *Perceiving one's home city as a declining city will weaken the otherwise positive link between alert, deliberate search for entrepreneurial opportunity and recognition of that opportunity.*

Social Networks

Another antecedent to entrepreneurial opportunity recognition cited in numerous studies is the nascent entrepreneur's access to social networks that aid and even promote opportunity discovery (Ardichvili et al., 2003; Davidsson & Honig, 2003; Hayton et al., 2011; Wang et al., 2013). The nascent entrepreneur in Scranton, for instance, is likely to have a social network heavily populated with people from the local region. We would expect this social network generally to have a common, veridical sense of Scranton's decline; thus, the social network would tend to reinforce the entrepreneur's perception that Scranton is declining, just as the entrepreneur's perception of decline mutually reinforces perceptions among network members.

The social network is also generally no more likely than the entrepreneur is to engage in the behaviors leading to opportunity creation or recognition and is unlikely to be a source of diagnostic information on entrepreneurial opportunities, given the Scranton context. That is, people who might be incorporated into the social network for the purpose of providing resources for a venture are less available in a declining city. True, having parents or close friends who are entrepreneurs in one's social network, as well as encouraging friends, typically predicts entrepreneurial opportunity recognition (Davidsson & Honig, 2003), but as we described above, Scranton's entrepreneurship environment is weak relative to more entrepreneurship-friendly cities. The social network is nested in the local Scranton reality (Clough, Pan Fang, Vissa, & Wu, 2019; McKeever et al., 2015). This is something on which extant entrepreneurship research is virtually silent. Researchers mostly seem to assume that a nascent entrepreneur's social network will be supportive and have all kinds of salutary effects on the entrepreneur's opportunity recognition, with no consideration for how such effects might not obtain in a declining city setting that conditions the network members' perceptions, experiences, and so forth regarding small business and entrepreneurship (Aldrich & Ruef, 2018).

Proposition 3: *Perceiving one's home city as a declining city will weaken the otherwise positive link between social network features and entrepreneurial opportunity recognition.*

Entrepreneurial Self-efficacy

As we stated earlier, entrepreneurial self-efficacy is nascent entrepreneurs' beliefs that they can, indeed, recognize entrepreneurial opportunities and take actions and create conditions that permit business startup or innovation (McGee et al., 2009). This type of self-efficacy is an antecedent to entrepreneurial opportunity recognition (Ardichvili, 2003; Kickul et al., 2009; Wang et al., 2013). We hold this relationship may vary in strength depending on the local setting in which the nascent entrepreneur is searching and enacting because nothing about self-efficacy suggests that entrepreneurs, in gauging the interaction of their performance situation and their own abilities, will ignore the situational implications of doing business in a declining city. Applying what Ajzen (1991) observed regarding perceived behavioral control, the entrepreneur's perceived ease or difficulty of recognizing venture opportunities reflects "past experience as well as anticipated impediments and obstacles" (p. 188). Ardichvili et al. (2003) related research that found that entrepreneurs' taking an "outside view" of an opportunity's success potential tempered their optimism, which in turn was related to their self-efficacy. An otherwise optimistic entrepreneur forced to contemplate an opportunity from the outside looking in and doing so in a declining city like Scranton may well discount the opportunity because of the impediments and obstacles that venturing in Scranton portends for resources, consumer market size, facilitative network effects, and other factors necessary for startup success.

Proposition 4: *Perceiving one's home city as a declining city will weaken the otherwise positive link between entrepreneurial self-efficacy and entrepreneurial opportunity recognition.*

We offer these four propositions with the knowledge that measures of varying quality already exist in extant research for the antecedent and dependent variables in our propositions (e.g., Wang et al., 2013). The ten-item measure of the entrepreneur's perception of the locality's decline that we offer above may provide a starting point for a moderator measure. Future research should check for the quelling effects of a declining city that we have proposed, both within a declining city and between entrepreneurial groups in both ascending, growing cities and declining cities.

COLLEGIATE ENTREPRENEURSHIP EDUCATION IN DECLINING CITIES

We used Scranton, Pennsylvania, as an example of a declining city, but our observations and propositions just as readily apply to any number of declining cities. Most of those cities were large cities at one time, and some still are large cities but were once very large ones. In likely every case, to include Scranton, the local business community, elected officials, and other stakeholders yearn for more entrepreneurship in their cities, even though most small-firm startups never deliver the hoped-for results and rarely survive even five years (Headd, 2010; Shane, 2009). These stakeholders also know that universities and colleges have embraced the entrepreneurship academic discipline, so they turn to the local higher-education institutions for insights and whatever help may be available on the entrepreneurship front.

Scranton LaunchBox

Many universities launch initiatives for promoting entrepreneurship and innovation in their regions. With the help of a $50,000 grant from Penn State University, the Penn State University campus in Scranton recently established a "pre-incubator" facility and program in downtown Scranton as part of Penn State University's "Invent Penn State" initiative for stimulating innovation and entrepreneurship throughout Pennsylvania. Called the Scranton LaunchBox, this pre-incubator seeks to influence and encourage nascent entrepreneurship in and around Scranton versus providing full incubator activities involving extended physical space provision and considerable opportunity exploitation assistance. The focus is on entrepreneurial ideation (a key antecedent to opportunity recognition; Kier & McMullen, 2018), initial opportunity recognition or enactment, advice on basic business startup requirements, and so forth. Not trying to emulate full-blown incubator efforts shows an awareness of Scranton's particular need and nature of entrepreneurial environment. Simply trying to copy booming cities' incubators would have been "getting the cart before the horse" in Scranton's case, as much more thoughtful work must go into supporting ideation, initial opportunity recognition, and evaluation lest any fledgling startups fail quickly due to poor business modeling, erroneous opportunity assessment, and the like.

The Scranton LaunchBox reflects a collective regional effort of committed institutions including chambers of commerce, institutions of higher learning, foundations, small-business support services, and other organizations that are determined to grow new businesses locally in a declining city. This initiative embodies the concept of partnership on multiple levels—industry, academia, and private philanthropy. It is a pre-incubator/accelerator model that will help determine and advance the viability of a proposed concept from idea formation to business plan development. This LaunchBox will provide access to university resources including, but not limited to, labs and equipment, faculty as consultants, students as entrepreneurs and interns for product and market development support, research capacity, intellectual property guidance, technical assistance, and technology transfer support for commercializing and/or licensing. The LaunchBox will provide access and referral to comprehensive, one-on-one business development and support services. Examples of these services include business planning, accounting and legal professional services, market development and guidance, financing, exporting assistance, mentorship from other entrepreneurs and business owners, and introduction to potential customers and suppliers.

Educational Implications

MacPherson and Ziolkowski (2005) noted even small universities' increasing importance to promoting incremental innovation, particularly in small firms that have neither the internal resources to innovate themselves nor the financial means to import innovation help from the outside. Small firms' owners in declining cities may need to have realistic views of what can and cannot be done by local universities, but nonetheless reap whatever incremental benefits may come from involving universities and their students in the small firms, often with employment maintenance (versus jobs growth) being the best outcome possible (MacPherson & Ziolkowski, 2005). For instance, Sahai and Frese (in press) described how established entrepreneurs show some tendency to becoming habituated to certain solutions and increasingly inflexible in their problem solving, such that their opportunity recognition and innovation skills suffer. One answer to this that Sahai and Frese suggested is doing more reading and having more idea exchange with experts and colleagues. Accordingly, it occurs to us that local universities should be hosting small-business forums with discussion opportunities and mixing in a bit of teaching. Likewise, college marketing and entrepreneurship classes should be helping small firms do customer-feedback surveys, as such feedback also helps small-business owners avoid becoming too set in their ways (Sahai and Frese, in press).

As to collegiate entrepreneurship education in declining cities, McGee et al. (2009) discussed the potential for such education to increase students' entrepreneurial self-efficacy which, as suggested in our proposition above, needs to be as strong as possible to withstand the dampening effect on opportunity recognition of venturing in a declining city. McGee et al. also suggested that, after teaching ideation, creativity, and opportunity recognition and enactment to entrepreneurship students, they next need education in concrete skills and knowledge that pertain to exploitation details and routine small-business management. The implication in declining cities is especially that a clever initial idea or inspiration will not be enough to ensure successful exploitation and survival unless the entrepreneur also has solid business knowledge and skills. This also comports with Kuratko's (2005) reminder that entrepreneurship education needs to be explicit about risks in entrepreneurship. A college entrepreneurship program in a thriving, large city may not have to stress risks of failure so much, but the program in a declining city must be extra-certain to ensure graduates begin their entrepreneurial efforts with their "eyes wide open" as to the challenges they will encounter.

At the same time, college entrepreneurship classes in declining cities should alert students to the notions of not dwelling so much on what is weak or deficient in the city's business environment and instead focusing on entrepreneurial opportunities in any dimensions that the city does excel in, such as tourism, nature attractions, sports events, trucking and logistics due to proximity to highways, and so forth. Furthermore, as with the example of elder-care services for the aging population that we mentioned above, students could be sensitized to opportunities attending a city's decline, such as the commercial need for bargain-priced goods given flat wage growth and the need for property management and real estate trade and repurposing solutions for facilities abandoned as businesses leave or fail.

DISCLAIMER

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Taking Stock and Moving Forward: Independence of Entrepreneurship as a Discipline and the Intellectual Structure of Entrepreneurship Research in Strategy Venue

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Entrepreneurship has grown into a full-fledged, vibrant discipline, not only drawing on but also spawning a spectrum of research streams with various theoretical perspectives and empirical evidence. However, strategy journals had traditionally been home to many earlier entrepreneurship research insights. How has the intellectual structure of the entrepreneurship research published in strategic outlets evolved, given the disciplinary maturity of entrepreneurship? To answer this question, we performed a visual bibliometric analysis on the full archive of 25 years' research on entrepreneurship published in a leading strategy journal. Our results uncover the intellectual development trajectory around entrepreneurship research targeted at strategy venue, and reveal the key elements such as research methods, level of analysis, variables, and correlations about such a body of research. This study provides an important starting point for reflecting on the particularities of boundary-crossing entrepreneurship research, and for identifying further avenues of theoretical and empirical inquiries.

INTRODUCTION

Entrepreneurship, a process that leads to social, economic, and political innovation (O'Neill, 1977, Eisenstadt, 1980, Libecap, 1996) has attracted ever growing scholarly attention (Baron and Henry, 2010). Today, it has grown into a full-fledged research domain spawning a spectrum of research streams, as evidenced by the proliferation of influential publications, specialized journals, and research conferences.

In light of such proliferation, researchers have begun to map the key dynamics of entrepreneurship scholarship, and generated important in-field findings on the trajectory of disciplinary development (Carraher & Paridon, 2008), especially since its "new beginnings" in 1999 (Gregoire et al., 2006). However, there has been little research devoted to presenting the panorama of entrepreneurship research in extra-field outlets before and after the disciplinary maturity of entrepreneurship. This is important, because given the pulling force of entrepreneurship journals, as well as the fact that strategy journals had traditionally been home to many earlier entrepreneurial insights, triangulating with entrepreneurship research published in extra-field venues could not only allow for a better understanding of the intellectual development of the discipline, but also could shed light on the particularities of boundary-crossing entrepreneurship research, uncovering unexplored areas for contributions.

This study is one of the earliest attempts to look over the disciplinary "fence" both before and after the disciplinary boundary was clear. Specifically, the authors explore the evolution of entrepreneurship research in strategy venue. Entrepreneurship and strategy research share certain topical preoccupations, e.g. wealth creation, innovation, growth, and flexibility (Alvarez, 2003). Since the turn of the century, tremendous interests have been shown to the intersection of both fields (Droege & Dong, 2008, Luke et al., 2011, Harms et al., 2012).

> *What, then, are the dominant features of entrepreneurship research in strategy venue before and after the disciplinary maturity of entrepreneurship?*

To answer this question, in this article, the authors report a visualized bibliometric of entrepreneurship research published in, *Strategic Management Journal (SMJ),* a representative venue of strategy scholarship (Niemi et al., 1988, Franke et al., 1990, Baum et al., 1998, Podsakoff et al., 2005) with long term and constant inclusion of entrepreneurship research before and after entrepreneurship has been established as an independent discipline. Our approach is an integration of bibliometrics, a mathematical and statistical analysis (Diodato and Gellatly, 2013) with qualitative content analysis. The visualizations center on influential authors, dominant themes, and the evolutions of these indicators, as well as strategic entrepreneurship, and this study also put forth a model that groups the antecedents, performance and process outcomes, moderators, mediators, and new variables associated with said research.

This study makes a few important contributions to our field. First, with the help of bibliometric visualizations, the authors provide a panorama of the changing intellectual structural of entrepreneurship research in strategy venue. While the question of entrepreneurship's maturity as a field of study (Shane and Venkataraman, 2000, Shane and Venkataraman, 2001) is largely settled, evidence of this maturity has rarely been explored in an extra-field venue. This paper attempts to provide the missing link, inventorying and organizing the literature in said venue to construct a repository of extant insights on which new theorizations and empirical inquiries may be built.

Second, this paper takes one step further than portraying the development of our field. Our highlighting of the central topics, major publications and citations, influential authors, and dominant theoretical perspectives as well as our model that summarizes the key concerns of extant research provides researchers with important indicators for further research (Low & MacMillan, 1988).

Methodologically, our analytical approach boasts the advantages of both quantitative bibliometrics and qualitative content analysis. While bibliometric software provides algorithmic results in general covers citation and co-citation analyses, they do not provide in-depth thematic analysis. At the same time, qualitative content analysis, which entails human coding, while allowing researchers to better focus at most relevant themes of inquiry, is susceptible to the theme omission and/or error of codes. The integration of the human coding and text-mining greatly enhances coding reliability.

This study conclude that entrepreneurship scholarship witnessed continued expansion in strategy venue, and exhibits a pattern of increased coherence in terms of theoretical perspectives, and enhanced efforts in framework building. In addition, entrepreneurship research in strategy venue exhibits certain particularities in terms of methods, level of analysis, and variables, which, in our view, provides clear clues for future theorization and empirical testing.

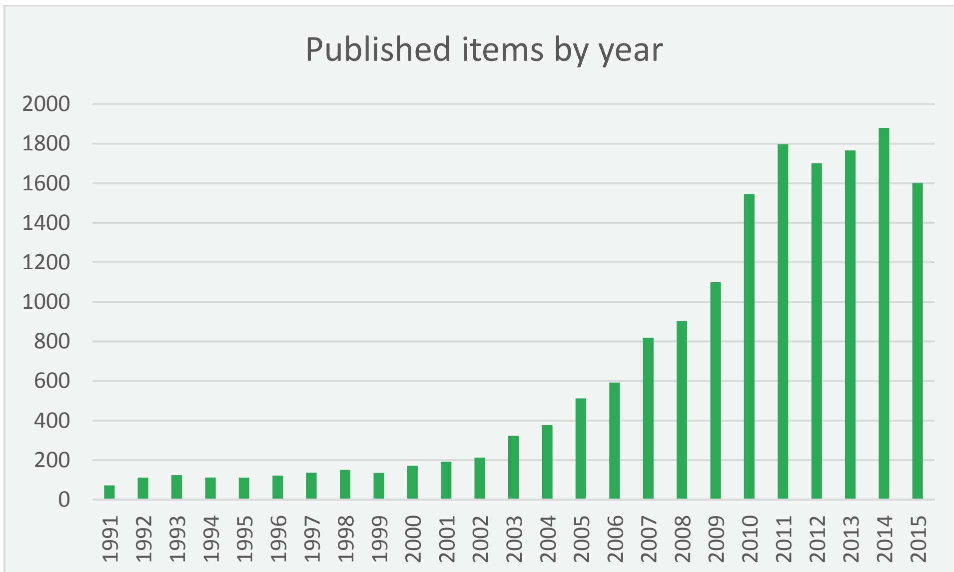
The remainder of the paper is organized as follows. This paper first presents the background for this research, reviewing important development in entrepreneurship scholarship. The authors then discuss in detail the data and methods utilized in our analysis. After that, both quantitative and qualitative results result of analysis are presented and discussed. Finally, this study highlights some possible directions for future research.

RESEARCH BACKGROUND: ESTABLISHMENT OF ENTREPRENEURSHIP AS A DISCIPLINE

Entrepreneurship Research on the Rise: Publications, Major Venues, and Research Conferences

Since the insights on entrepreneurship by Joseph Schumpeter (Schumpeter, 1934), entrepreneurship research has experienced a tremendous development, spawning a diversity of theoretical perspectives and empirical examinations. The momentum was further enhanced over the last fifteen years, as evidenced by the proliferation of publications.

FIGURE 1
NUMBER OF PAPERS ON ENTREPRENEURSHIP PUBLISHED



(Source: Web of Science; Topic: "Entrepreneurship")

Underlying this proliferation is the emergence or re-emergence of major entrepreneurship-oriented venues, such as *Journal of Small Business Management (est.1963), Entrepreneurship: Theory and Practice* (ETP, est. 1976, known as *American Journal of Small Business* prior to 1988), *International Small Business Journal* (est.1982), *Journal of Business Venturing* (est.1985), *Family Business Review* (est. 1988), *Small Business Economics* (est. 1989), *Entrepreneurship & Regional Development* (est.1989), and *Strategic Entrepreneurship Journal* (est. 2007). Notably, the term Entrepreneurship began to feature in major journal titles around 1990, as evidenced by the renaming of American journal of small business into Entrepreneurship: Theory and Practice, and the appearance of Entrepreneurship & Regional Development in 1989. Undoubtedly, this development in academic venues for entrepreneurship paved the way for entrepreneurship's becoming a semantic focus, which subsequently stimulated the proliferation of academic efforts.

Also fueling this maturity of entrepreneurship scholarship (Shane and Venkataraman, 2000, Bruyat and Julien, 2001, Shane, 2012, Venkataraman et al., 2012) are leading research conferences on entrepreneurship, such as the Babson College Entrepreneurship Research Conference (BECER, est 1981), Research in Entrepreneurship and Small Business conference (RENT, est 1987) and workshops organized by the Entrepreneurship Divison of the Academy of Management (AoM), and by the SMS' Interest Group for Entrepreneurship and Strategy. Conferences and workshop facilitate exchange of ideas and interaction among the stakeholders of entrepreneurship, and are therefore conducive to the fostering and strengthening of entrepreneurship community.

Inventorying Knowledge: The Emergence of Co-Citation Analyses on Entrepreneurship Research

On the literature aspect, the "come of age" of entrepreneurship research is marked by the efforts to consolidate extant knowledge, evidenced by the appearance of systematic analysis of the knowledge roadmaps of this scholarship. Bibliometric analysis tracks the trajectory of knowledge evolution, and helps identify dominant trends (Chen, 2004, Chen, 2006). Déry and Toulouse (1996) offered a detailed co-citation analysis of papers published in *the Journal of Business Venturing* between 1986 and 1993. Reader and Watkins (2006) performed a cluster analysis on co-citation patterns associated with 78 authors of entrepreneurship. Gregoire et al. (2006) provided an excellent co-citation analysis of Frontiers *of Entrepreneurship Research*, highlighting entrepreneurship moving beyond its status as a subfield of strategy (between 1994 and 1998).

As a vibrant young field with inputs of insights from various theoretical and disciplinary perspectives, entrepreneurship needs constant knowledge map updating in strategy venue, in the form of a comprehensive synthesis and organization of its subject matter, theoretical perspectives, publications, and influential authors. This motivates our attempt to visualize the knowledge landscape of entrepreneurship in the strategy venue.

Believing the value of visualization in social analysis (Grady, 2011), this study seeks to construct visualizations of such knowledge development which inventories existing insights and on which new theoretic insights may be gained (Corley and Gioia, 2011). Next, this paper would turn attention to the methods, including analytical procedures.

METHODS

The overall empirical goal of this study is two-fold: 1) to quantify and qualify, with bibliometric and content analyses, notable trends of entrepreneurship research in strategy venue, e.g. influential publications and authors by citations, predominant themes over time, and 2) to highlight key elements of entrepreneurship research in strategy venue, such as research methods, level of analysis, variables and correlations.

Data Collection

The time frame of our inquiry is between 1991 and 2015. Covering research in these 25 years allows us 1) to cover the shift of field status of entrepreneurship in 1998 (Gregoire et al., 2006) , 2) to have at least two times as many years after the status change than the number of years before the change, which would allow us to observe potential changes in the number and themes of entrepreneurship papers appearing in the strategy venue of focus.

Our dataset covers the title, abstract, keywords, cited frequency, citing references, authors' information, and so forth. The data collection is a two-step process. First, to have an overall understanding of the strategy-entrepreneurship connection, this study collected all the paper dealing with both "strategy" and "entrepreneurship" from Web of Science (publication N=2741). Second, the authors collected the full sample of entrepreneurship research from SMJ in our time frame (publication N=145). SMJ was chosen not only for its leading role in strategy scholarship and its constant inclusion of entrepreneurship but also for the fact that a number of important theoretical perspectives and frameworks (Porter, 1980, Burgelman, 1983, Porter, 1997, Teece et al., 1997, Elsenhardt and Martin, 2000) applied in entrepreneurship first came from SMJ.

Data Analysis

This study first contextualizes our inquiry with an overall picture of the strategy-entrepreneurship connection in research. This is done with our "Web of Science" dataset on research with both entrepreneurship and strategy as topics. The authors then choose SMJ as the proxy journal to examine what entrepreneurship scholarship looks like in strategy venue. This then allows the authors to summarize key elements of entrepreneurship research in strategy venue and to identify emerging trends of said research.

TABLE 1
ANALYTICAL APPROACH

Step Number	Description
1	Context analysis – quantitative analysis and visualization of the evolution of research with both strategy and entrepreneurship as topics.
2	Strategy venue analysis - quantitative analysis and visualization of the evolution of entrepreneurship research in strategy venue (proxy: SMJ)
3	Research element analysis – qualitative analysis and summary of the key elements of entrepreneurship research in strategy venue
4	Identification of emerging trends and directions for future contributions

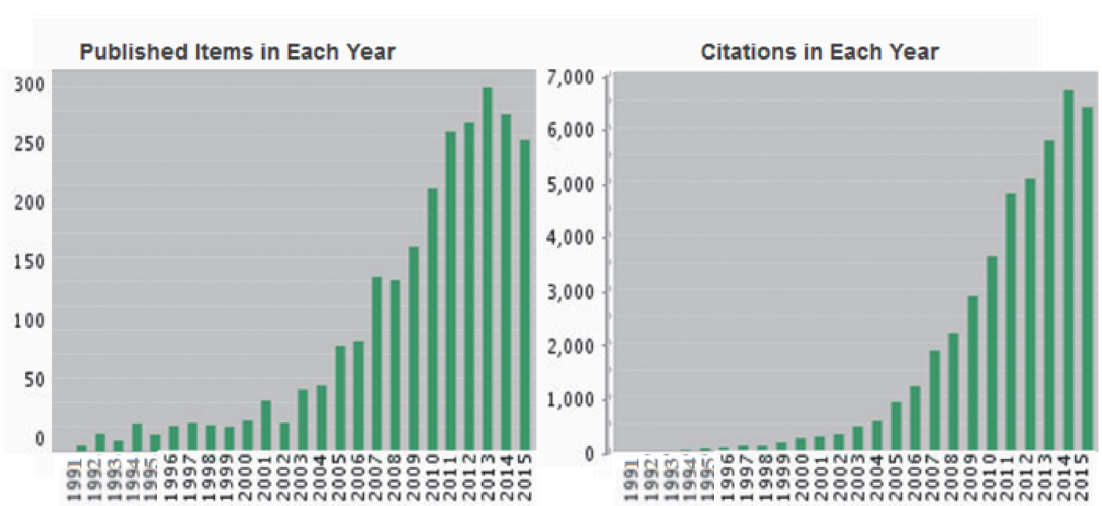
Research software utilized for this study includes CitespaceⅢ for the quantitative analysis and Nvivo 10 for the qualitative analysis. Specifically, CitespaceⅢ is used to visualize the evolution of entrepreneurship research in our sample. Endnote is used together with Nvivo 10 for thematic review purposes (Johnston, 2006, Bazeley and Jackson, 2013). To present a more accurate landscape of entrepreneurship scholarship in strategy venue, this study integrate the computer-aided quantitative results with findings from qualitative content analysis, which lead to bibliometric visualizations of key characteristics of extant knowledge, and their trajectories.

CONTEXT FIRST: ENTREPRENEURSHIP RESEARCH IN STRATEGY VENUE

Expansion in Publication and Citation

Research connecting entrepreneurship and strategy has been found to be growing steadily from 1991 onwards. Figure 2 presents respectively the numbers of papers published and cited on entrepreneurship in strategy venue by year. It indicates that the citations on entrepreneurship have increased rapidly over the past two decades, with a steep increase since the year 2005. To a less yet important extent, publications on entrepreneurship went through a significant increase, especially when comparing years 2003-2015 with years 1996-2002. It is possible that the sharp increase in 2003 is due to the special issue stressing the importance of research in entrepreneurship (Hitt et al., 2001). The introduction of SEJ may also fuel the interaction between entrepreneurship and strategy, as shown by the upward trends after 2007.

FIGURE 2
NUMBERS OF PAPERS ON ENTREPRENEURSHIP AND STRATEGY PUBLISHED AND CITED BY YEAR

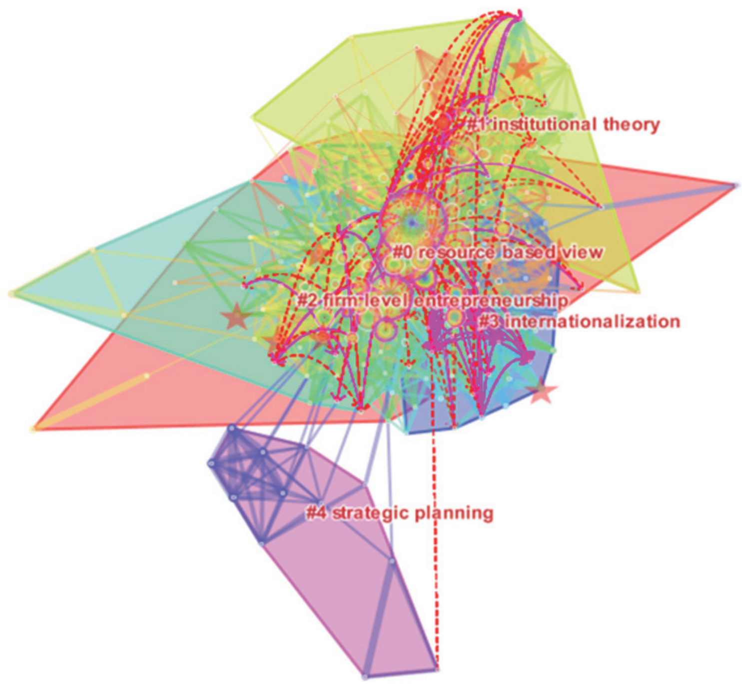


(*Source: Web of Science, Topics: "strategy" and "entrepreneurship"*)

Burst Analysis and the Choice of SMJ

Our analysis reveals the thematic changes involved in the above mentioned sharp increase since 2003. The post 2002 sample of research with dual foci on strategy and entrepreneurship (Key words = "entrepreneurship, strategy", Publication N=2274, Cited reference N=78080) generates five clusters as shown in Figure 3. The different colors correspond to different clusters. Color encodings show clearly the newness of network regions. Each node represents a cited reference in the network. The clusters are numbered in the descending order of the cluster size, starting from the largest cluster #0.

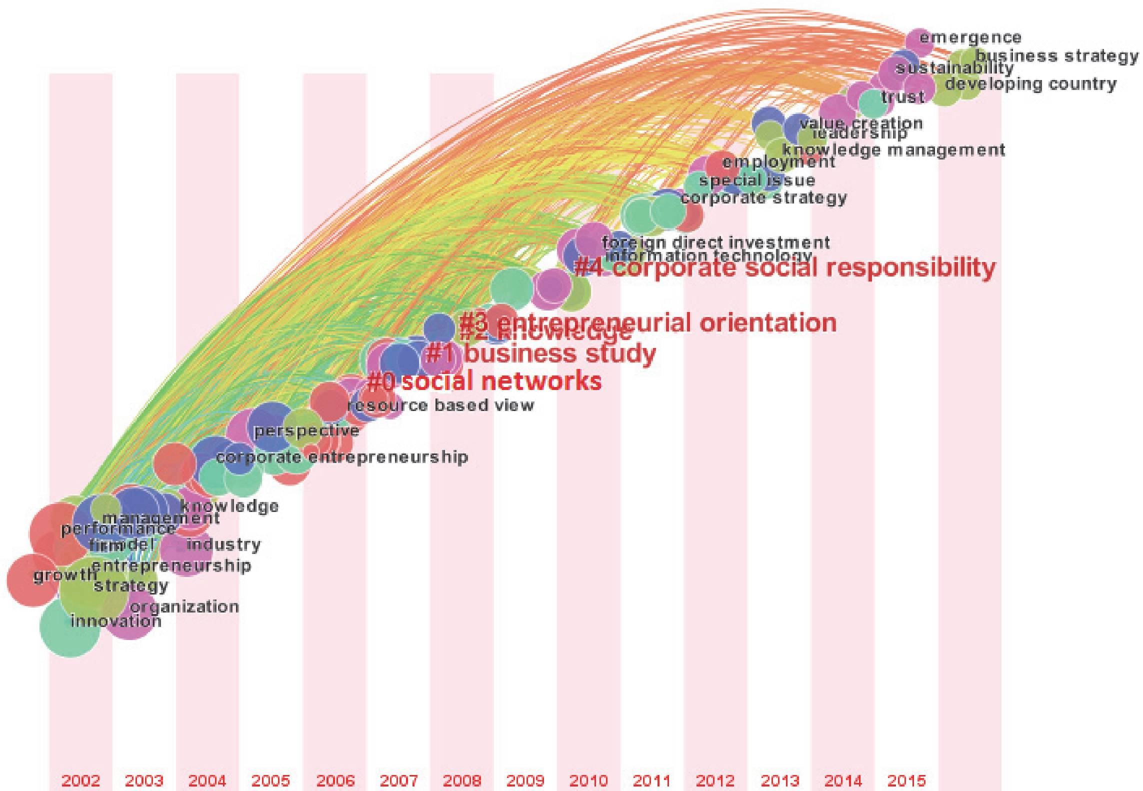
FIGURE 3
CITED REFERENCE CLUSTERS (2002-2015, CLUSTER VIEW)



(Tips: Cluster0: Resource based view (color: red); Cluster1: Institutional theory (color: yellow); Cluster2: Firm level entrepreneurship (color: bright blue); Cluster3: Internationalization (deep blue); Cluster4: Strategic planning (color: purple))

The red and pink lines in Figure 3 indicate the novel links that the papers in question add to the network formed prior to their publications. Novel links added by a paper to the existing network of cited references are shown in red dashed lines. The star marks the position of the citing paper itself, which itself was cited by other papers. This sample shows that connections exist between the largest cluster is *Resource based view* and other three main clusters are *Institutional theory*, *Firm level entrepreneurship* and *Internationalization*. Based on the time line analysis, it is clear that the *Resource based view* cluster is the fundamental cluster, while the *Institutional theory* cluster was the most recent.

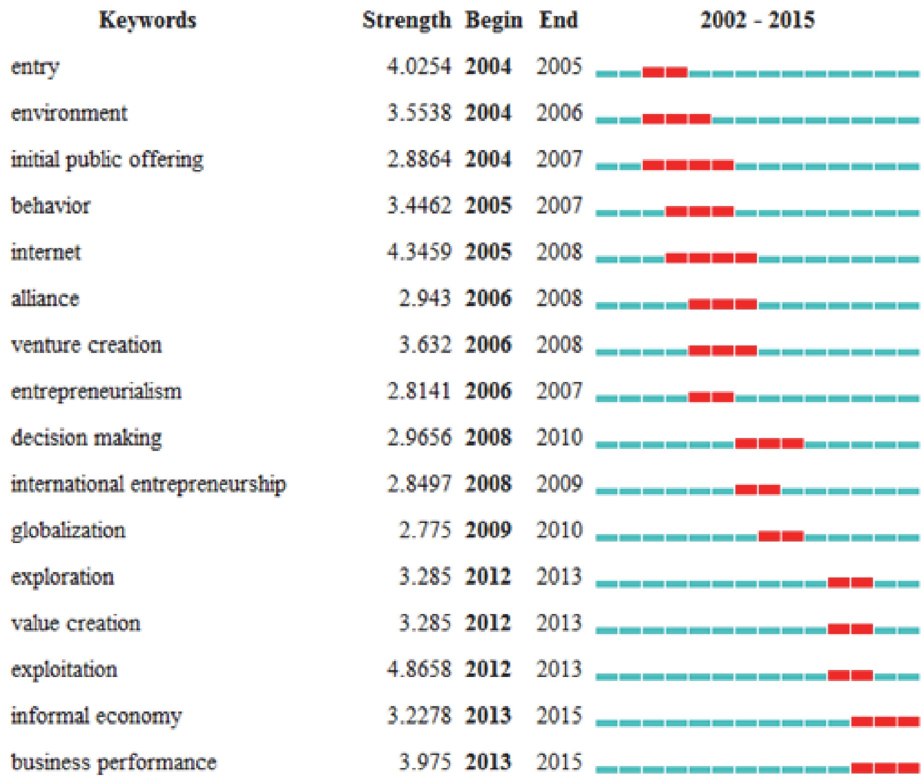
FIGURE 3
KEYWORDS CLUSTERS (2002-2015, TIME-ZONE VIEW)



(Tips: Cluster0: Social networks (node color: red); Cluster1: Business study (node color: green); Cluster2: knowledge spillover (node color: bright blue); Cluster3: Entrepreneurial orientation (node color: deep blue); Cluster4: Corporate social responsibility (node color: purple)

The cluster analysis based on keywords network in the time-zone view shows the evolution of research topic from *social networks* to *knowledge spillover* and *entrepreneurial orientation*, and then to *corporate social responsibility*. "Business study" exists in the whole research period. Figure 5 shows the 16 burst keywords sorted by beginning year (Citation burst is an indicator of a most active area of research. Meanwhile, keyword burst is a detection of a burst keyword, which can last for multiple years as well as a single year.). In the first stage (year 2002-2008), the most active research is in *entrepreneurial entry*, *strategic alliance* (networks), and *environment* (contingency theory) area. In the second stage (year 2008-2013), it is the *international entrepreneurship* and *value creation* that active in this domain. For the last and most recent stage (year 2012-2015), the active research areas are *informal economy* and *business performance*.

FIGURE 4
KEYWORDS WITH STRONGEST CITATION BURST



Keywords	Strength	Begin	End	2002 - 2015
entry	4.0254	**2004**	2005	
environment	3.5538	**2004**	2006	
initial public offering	2.8864	**2004**	2007	
behavior	3.4462	**2005**	2007	
internet	4.3459	**2005**	2008	
alliance	2.943	**2006**	2008	
venture creation	3.632	**2006**	2008	
entrepreneurialism	2.8141	**2006**	2007	
decision making	2.9656	**2008**	2010	
international entrepreneurship	2.8497	**2008**	2009	
globalization	2.775	**2009**	2010	
exploration	3.285	**2012**	2013	
value creation	3.285	**2012**	2013	
exploitation	4.8658	**2012**	2013	
informal economy	3.2278	**2013**	2015	
business performance	3.975	**2013**	2015	

Based on the most cited journals (c.f. Table 2), SMJ is the second most cited journal among all the top cited journals. These differences in citations lend extra support to our choice of SMJ as the proxy for an extra-field venue, considering the fact AMR and AMJ are relatively generic in research topics and theories, while ETP and JBV are specialized entrepreneurship journals.

Post 1991 Evolution of Entrepreneurship Research in Strategy Venue

Influences: Major Work

Network centrality, an indicator of the most important vertices, helps us identify the most influential publications in our *SMJ* sample (Time period 1991-2015, Publication N=133, Cited reference N=6606). Our results suggest that all major publications were produced after 1998. It reflects the vibrancy of entrepreneurship research in strategy venue, and shows that top strategy journal remained an important venue for entrepreneurship scholarship.

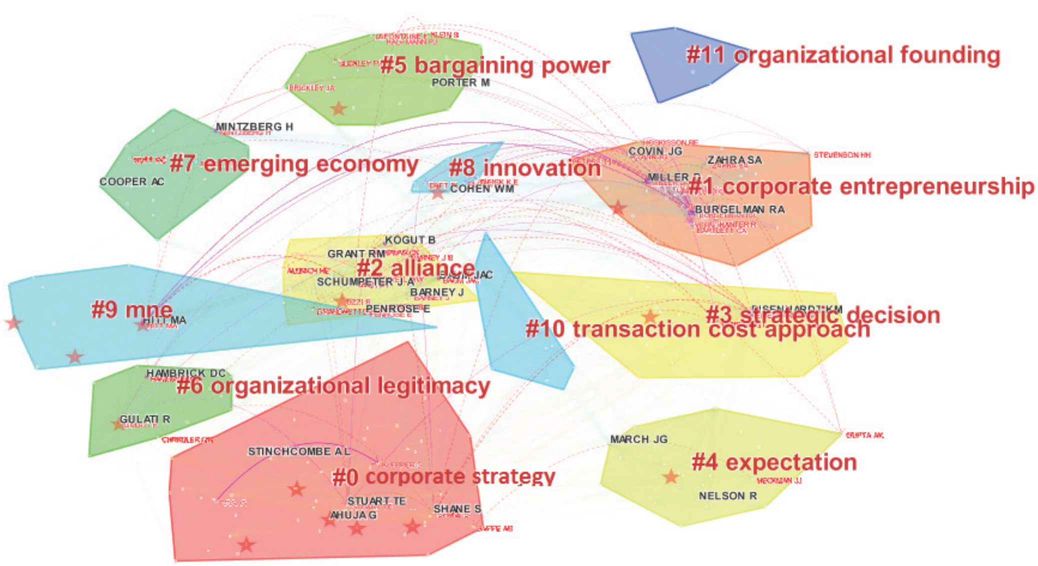
This result also highlights important research topics in entrepreneurship. For instance, performance of firms, especially those in high-tech industry and/or engaging in knowledge creation and transfer activities, attracts major academic attention. In terms of temporal dynamics, the focus has been changing from performance of high-tech firms (Yli-Renko et al., 2001, Wiklund and Shepherd, 2003, Dushnitsky and Lenox, 2005, Nerkar and Shane, 2007) to that of venture firms (Dushnitsky and Shaver, 2009, Arora and Nandkumar, 2012).

TABLE 2
TOP FIVE CITED JOURNALS

Rank	Frequency	Cited Journal
1	1217	Academy of Management Review (AMR)
2	1097	Strategic Management Journal (SMJ)
3	1039	Journal of Business Venturing (JBV)
4	1039	Academy of Management Journal (AMJ)
5	886	Entrepreneurship Theory and Practice (ETP)

Cluster Analysis

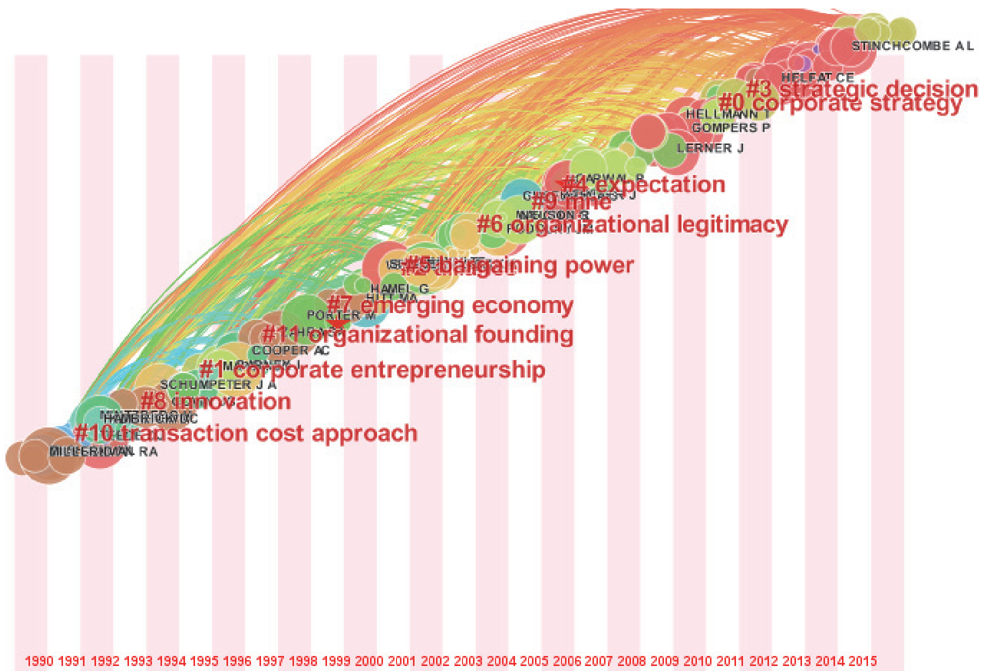
FIGURE 5
CLUSTER BASED ON CITED AUTHORS (CLUSTER VIEW, 1990-2015)



A number of clusters are identified for the research in entrepreneurship in SMJ from 1990 to 2015, as shown in Figure 6. This classification was based on the abstracts of papers in our dataset. The different colors represent different clusters: the largest cluster *entrepreneurship* in red and the smallest cluster *organizational founding* in deep blue. Each node represents a cited author in the network.

The clusters were created based on co-occurrence network, and allow us to identity major areas of research. Figure 7 depicts the decrease of the research area with the increase of cluster number from 0 onwards. The largest research area is the cluster0 *corporate strategy* (turnover; self-employment; turnover; horizontal acquisition; strategic human capital), the second largest one is cluster1 *corporate entrepreneurship (strategic fit; context; corporate governance)*, and then followed by *alliance* (strategic alliance; interorganizational relationship), *strategic decision*, *expectation* (overoptimism; planning ;rationality; cognitive perspective), *bargaining power* (franchising; vertical integration; industry analysis), *organizational legitimacy* (upper echelon; endorsement; CEO power; leadership structure), *emerging economy*, *innovation*, *MNE* (subsidiary entrepreneurship; globalization), *transaction cost approach*, and *organizational founding* (organizational ecology). The pink lines show clear bridge between cluster *corporate entrepreneurship* and other three clusters *innovation*, *MNE*, and *bargaining power*, and the bridge between cluster *alliance* and *strategic decision*.

FIGURE 6
CLUSTER BASED ON CITED AUTHORS (TIME-ZONE VIEW, 1990-2015)



Two important observations can be made for these two figures. First, the node color provides clues to tell the evolution of the cluster from time-zone view. In this case, the relative young cluster is *strategic decision* and *corporate strategy*, followed by expectation, MNE, organizational legitimacy, and bargaining power; the relative old cluster is *transaction cost approach*, *innovation*, and *corporate entrepreneurship*. Secondly, two types of nodes are especially noteworthy. The first type is the high cited nodes in the network, such as Shan S., Eisenhardt KM, Teece DJ, Stuart TE, Barney J, and Ahuja (Shan et al., 1994, Ahuja and Lampert, 2001, Amit and Zott, 2001, Lu and Beamish, 2001, Teece, 2007). They are representative nodes in their cluster. The second type of nodes is the nodes which connect two or more clusters, such as Hitt M.A. and Miller D. connect cluster *MNE* and *corporate entrepreneurship ,* Miller D. and Eisenhardt K.M. connect cluster corporate entrepreneurship and innovation (Miller and Friesen, 1982, Eisenhardt and Schoonhoven, 1990, Eisenhardt and Schoonhoven, 1996). The analysis of top 30 influential authors and keywords of their work shows that Agarwal, R, Ziedonis, RH, Ganco, M. enjoy the highest centrality in our sample. Central research topics include performance or firm performance, decision-making, venture capital firms, new venture. This figure also depicts the most influential perspectives, Noteworthy is that, organization or film level studies (node: organizations; venture capital firms; new venture) are by far dominant among the papers analyzed, with the key phrases firm and industry being the largest phrase nodes in the network, enjoying highest centrality compared to other nodes.

EVOLUTION OF ENTREPRENEURSHIP RESEARCH IN STRATEGY VENUE AS THE BOUNDARY TAKES SHAPE

In this section, the study separate the time period from 1991 to 2015 into three time frames: 1990-1998, 1999-2006, 2007-2015. The authors did this for two reasons: first, the analysis of this study and the insights in Grégoire et al (2006) on entrepreneurship's disciplinary formation prompt the authors to bisect the time period around 1998. Second, the journal SEJ started in year 2007; the authors suspect that its "pulling" force, though proved less significant in affecting the number of entrepreneurship paper being published, might affect the themes of entrepreneurship research in SMJ.

Cross-Disciplinary Inspirations

To decide the main fields from which the entrepreneurship research receives inspiration, this study categorized the most cited journals into five fields:

Management and strategic journals include *Strategic Management Journal, Administrative Science Quarterly, Academy of Management Journal, Academy of Management Review, Management Science, Organization Science*, and *Journal of Management Studies*;

Economics and finance journals are *American Economic Review, Journal of Finance, Journal of Financial Economics, Quarterly Journal of Economics, Econometrica, Bell Journal of Economics,* and *Journal of Political Economy*;

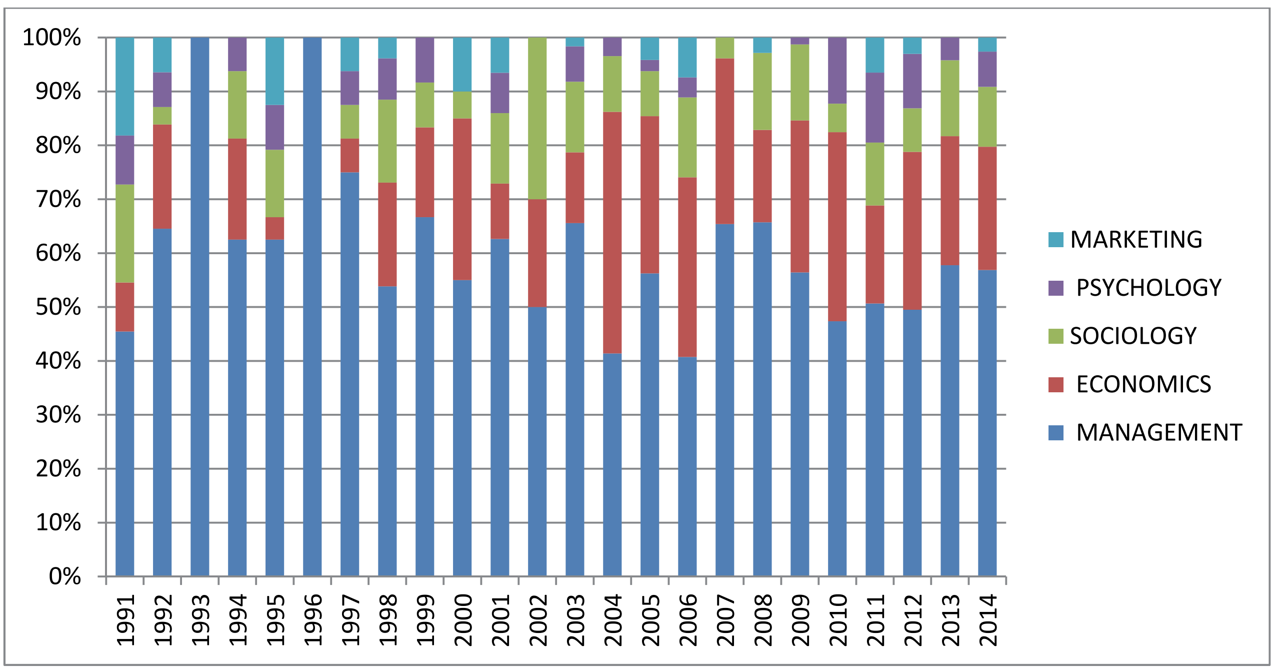
Sociology journals include *American Journal of Sociology* and *American Sociological Review*;

Psychology journals are *Journal of Applied Psychology, Psychological Bulletin, Psychometric Theory, Psychological Review,* and *Journal of Personality and Social Psychology*;

Marketing journals include *Journal of Marketing Research, Journal of Marketing Research,* and *Journal of Consumer Psychology.*

In the time frame of our study, entrepreneurship research in SMJ has increasingly drawn upon theories, and/or methods from Economics and Finance as well as Psychology, while decreasingly so for Marketing (c.f. Figure 8). Management remains the most important field from which entrepreneurship scholarship gain insights.

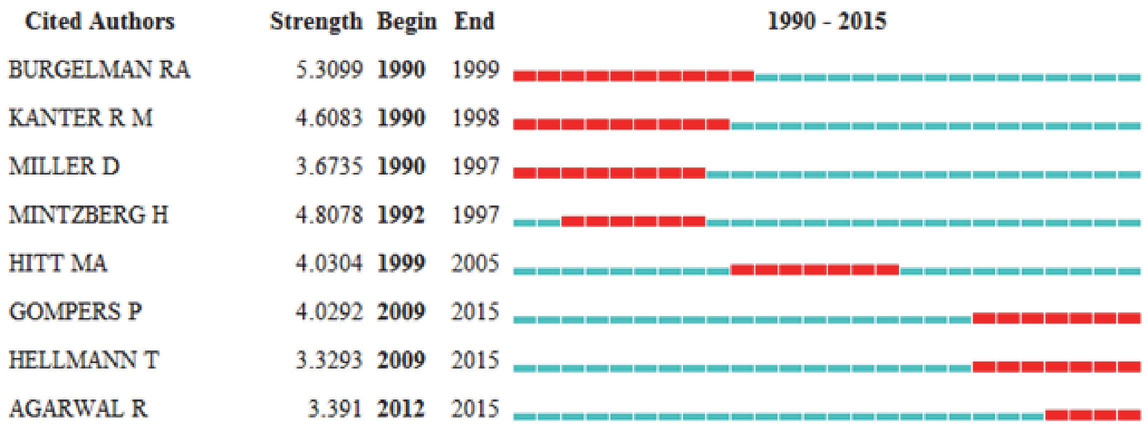
FIGURE 7
PERCENTAGE OF CITED DOMAIN (CLASSIFIED BY JOURNAL)



Inspiring Authors and Perspectives

Figure 9 show the citation bursts for major references. A publication with high burst degree is one that has attracted an extraordinary degree of attention from its scientific community. This figure also reveals the clear difference in citation burst before and after year 1998. Before year 1998, the strongest citation burst are Mintzberg and McHugh (1985) and Burgelman (1983). After year 1998, the strongest citation burst becomes Agarwal et al. (2004), Hellmann (2007), Hoetker and Agarwal (2007), and Lerner and Gompers (1999).

FIGURE 8
MAJOR REFERENCES WITH STRONGEST CITATION BURSTS IN SMJ (1990-2015)



Major Pre-1998 Inspirations

The most cited work before 1998 are Mintzberg and McHugh (1985), Miller and Friesen (1984), Porter (1980), and Burgelman (1983). Porter (1980) systematically deals with competitive strategy. Porter raised two important questions: 1) the attractiveness of industries for long term profitability and the factors that determine it; 2) the determinants of relative competitive position within an industry. Porter's work has exhibited great influence both empirically (Robinson and McDougall, 1998, Michael, 2000) and theoretically (Keyhani et al., 2015).

Burgelman (1983) focuses on the concept "Corporate entrepreneurship", which has significant influence for the early time of entrepreneurship study in SMJ. Based on the previous theoretical and empirical studies, Burgelman presented a model of the strategic process concerning entrepreneurial activity in large, complex organizations. He considered the activities of both middle managers and top managers' team when he examined the diversity. This work has been widely cited in the research on multiple companies (Birkinshaw, 1997, Birkinshaw et al., 1998) or from process perspective (Dougherty, 1992, McGrath et al., 1995).

Mintzberg and McHugh (1985) is more interested in the strategy formation in an adhocracy. In contrast to planning, he believed that organization strategies can "form" in a variety of different ways. His paper was also high cited in entrepreneurship research concerning organizational strategy (Dougherty, 1992).

Miller and Friesen (1984) informs corporate life cycle with the considerations of organizational growth and increasing environmental complexity. Therefore, his work has been widely cited in studies of firms in complexity environment (Mosakowski, 1991, Garud and Vandeven, 1992, Dess et al., 1997, Kaufman et al., 2000).

Major Post-1998 Inspirations

The most cited reference after 1998 are Eisenhardt (1989), Elsenhardt and Martin (2000), Barney (1991), Stuart (2000), Shane and Venkataraman (2000), Teece (1981), Teece et al. (1997), and Zahra et al. (1999). In terms of theoretical perspectives, entrepreneurship research in SMJ reflected an increasing focus on the relations between the environment and the entrepreneur, as evidenced by 1) the movement from Resource-based view (RBV) to Dynamic Capabilities (DC) and 2) the emergence of new conceptual framework.

From Resource-Based View to Dynamics Capabilities

Barney (1991) argues that firm resource is the foundation of sustainable competitive advantage. Stuart (2000) studies the relationship between inter-corporate technology alliances and firm performance in the framework of RBV. Three important authors wrote on the theory of dynamic capabilities, in many ways a further development of RBV (Teece et al., 1997, Zahra et al., 1999, Elsenhardt and Martin, 2000). Elsenhardt and Martin (2000) defines dynamic capabilities as a set of specific and identifiable processes such as product development, strategic decision making, and alliance. Teece et al. (1997) regards the dynamic capabilities framework is superior in analyzing the sources and methods of wealth creation and capture by private enterprise firms operating in environments of rapid technological change than traditional resource-based framework. Zahra et al. (1999) focuses on the dynamic organizational capabilities of corporate entrepreneurs competing in a dynamic and global economy.

New Framework of Entrepreneurship

Shane and Venkataraman (2000) provides a conceptual framework of entrepreneurship based on the previous study and empirical phenomenon. They define the field of entrepreneurship as "the scholarly examination of how, by whom, and with what effects opportunities to create future goods and services are discovered, evaluated, and exploited". Believing that the field involves the study of "sources of opportunities, the processes of discovery, evaluation, and exploitation of opportunities, and the set of individuals who discover, evaluate, and exploit them, they define entrepreneurship around the function of human (entrepreneurs, managers, or employee), an perspective often overlooked in the previous studies.

FIGURE 9
CHANGES IN KEYWORDS: 1991-2015 (WITH CONNECTIONS)

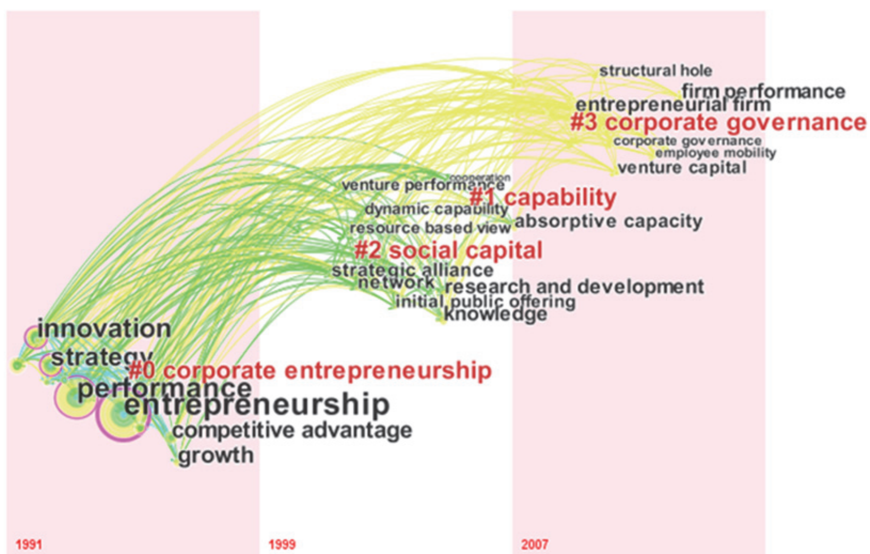


Figure 10 shows the change in the entrepreneurship research in SMJ from year 1991 to 2015. Notably, the dominant keywords changed from "growth" and "competitive advantage" to "dynamic capability", "strategic alliance", "venture performance", "R&D", and "network" to "corporate governance", "structural hole", and "employee mobility", except for keywords "entrepreneurship" and "innovation", which naturally remained central. Notably, later research cluster concerned multinational corporations (connected to keyword "corporate governance") and uncertainty ("venture capital"). Connected with keywords "knowledge", "diversification", and "embeddedness", "structural holes" rose in predominance in 2007-2015, where a group of papers study entrepreneurship from the "network" perspective (Vissa and Chacar, 2009, Ma et al., 2011).

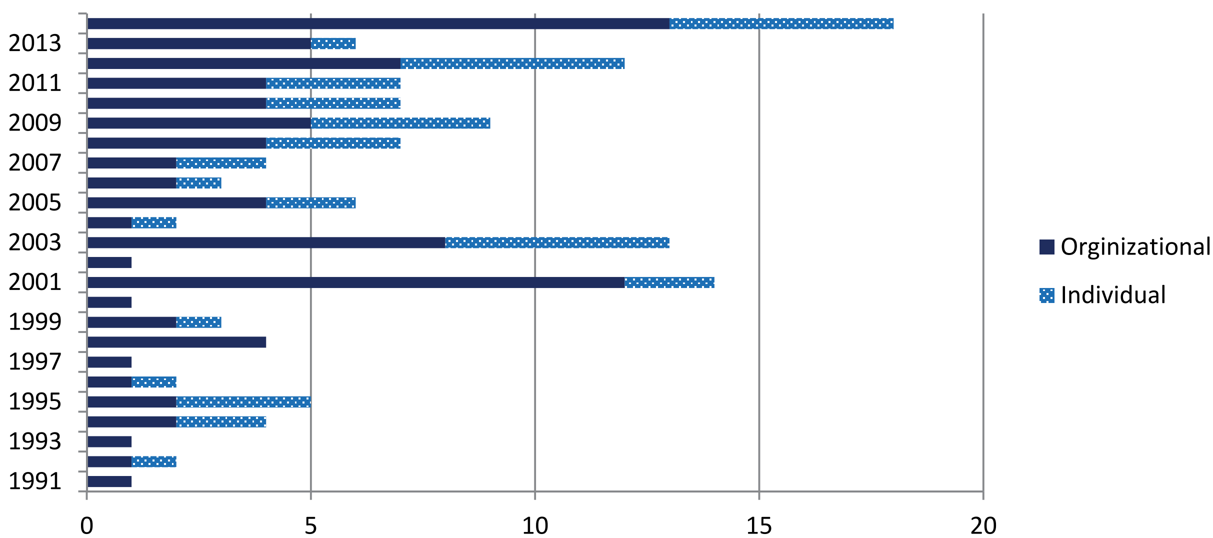
What Was It Like? - Key Elements of Entrepreneurship Research in Strategy Venue

In this section, the authors present the key elements of entrepreneurship research in SMJ that our analysis yields, such as research methods, level of analysis, variables and correlations.

Level of Analysis

Research at organizational level prevails. Although the number of research at the individual level (e.g. managers, CEOs, or top manager teams) rose after year 2000, its percentage remains relative low. Nonetheless, individuals featured more in 2007-2015 – possibly associated with the rise of the network perspective in 1999-2015.

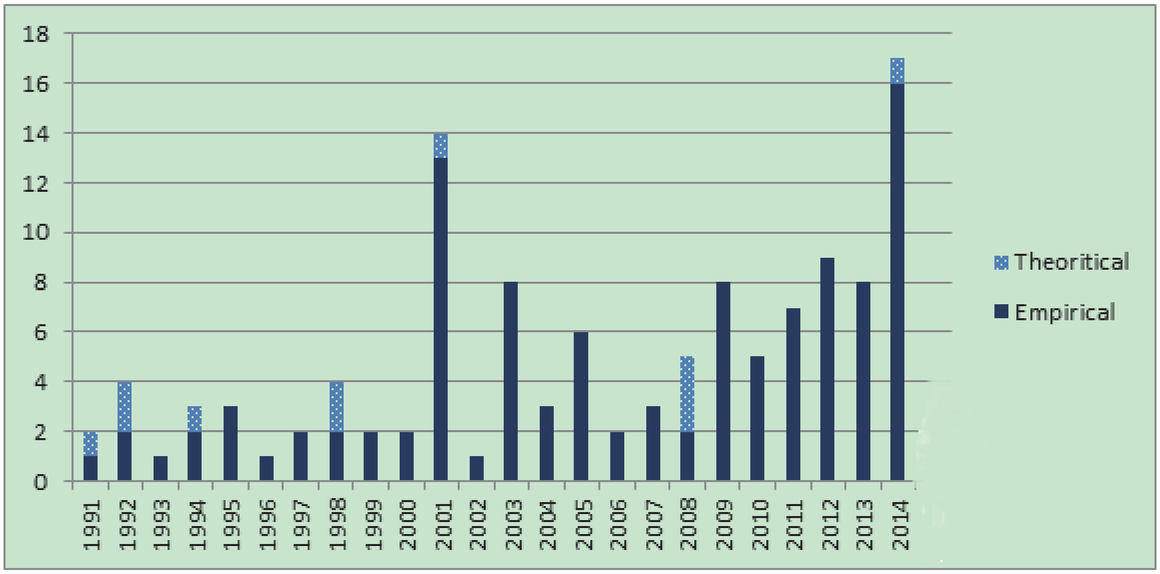
FIGURE 10
INDIVIDUAL VS. ORGANIZATIONAL AS THE LEVEL OF ANALYSIS



Research Methods

Our reading of the data reveals that the most popular empirical method has been econometrics. Other empirical methods also be applied include laboratory experiments and archival study (Cain et al., 2015), computer simulations (Keyhani et al., 2015), case study (Amit and Zott, 2001, Paroutis and Heracleous, 2013), or the combination of quantitative and qualitative method (Uzzi and Gillespie, 2002).

FIGURE 11
RESEARCH METHOD (1980-2015)



Among the 111 empirical papers shown in Table 3, 35 of them consider the moderate effect and 10 of them consider the mediating effect.

TABLE 2
SUMMARY OF RESEARCH BY VARIABLES

Empirical study	Moderator V	Mediator V	New V identified	Instrument V
111	35	10	9	2

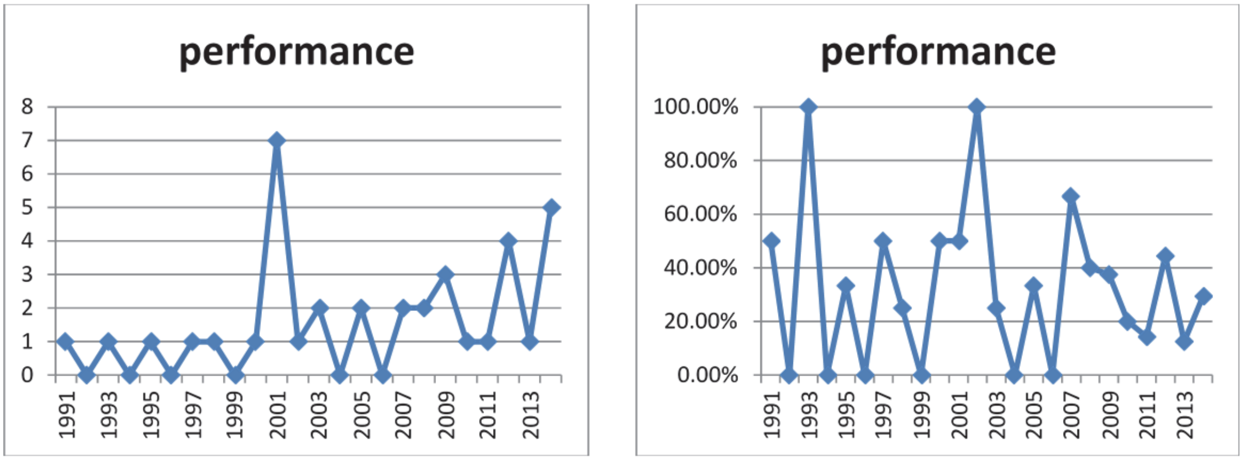
Variables

Our content analysis also generates information on the number and dominance of variables. In terms of moderators and mediators, most common variables include the environment (markets or industry) of firms, the experience or other characteristics of entrepreneurs or managers, and specific strategies. Among them, an increasing number of papers account for the dynamic environment as a moderator of firm performance or benefits (Simsek et al., 2010, Ma et al., 2011, Matusik and Fitza, 2012, Milanov and Shepherd, 2013, Eesley et al., 2014, Walter et al., 2014). Research with mediators appeared in 2001. Common mediators include the knowledge creating process, such as *knowledge acquisition* and *absorptive capacity* (Hull and Rothenberg, 2008, Arora and Nandkumar, 2012, Arend et al., 2014), and the decision of the firms or individuals (managers, entrepreneurs, or employees) in the examination of performance (McGee et al., 1995, Kor and Mahoney, 2005).

Nine studies in our sample utilized new variables. McGrath et al. (1995) defines *competence* as a strategic process paradigm when studying competitive advantage; Birkinshaw (1997) understands *initiative* as a key manifestation of corporate entrepreneurship, which has been widely cited in corporate entrepreneurship study; Lounsbury and Glynn (2001) sets forth the concept of *cultural entrepreneurship*, defined as the process of storytelling that mediates between extant stocks of entrepreneurial resources and subsequent capital acquisition and wealth creation; Uzzi and Gillespie (2002) examines *network transitivity* in their qualitative study of knowledge spillover in corporate financing networks; Nelson (2003) looks at the term *founder* in his study on the effect of individuals on venture performance; Teece

(2007) explains *dynamic capabilities* on the basis of his 1997 paper. Mirabeau and Maguire (2014) develops a model of *emergent strategy* formation at a large telecommunications firm. Lazzarini (2015) introduces the concept of support-adjusted sustainable competitive advantage (SASCA).

FIGURE 12
PUBLICATIONS WITH "PERFORMANCE" AS DEPENDENT VARIABLE



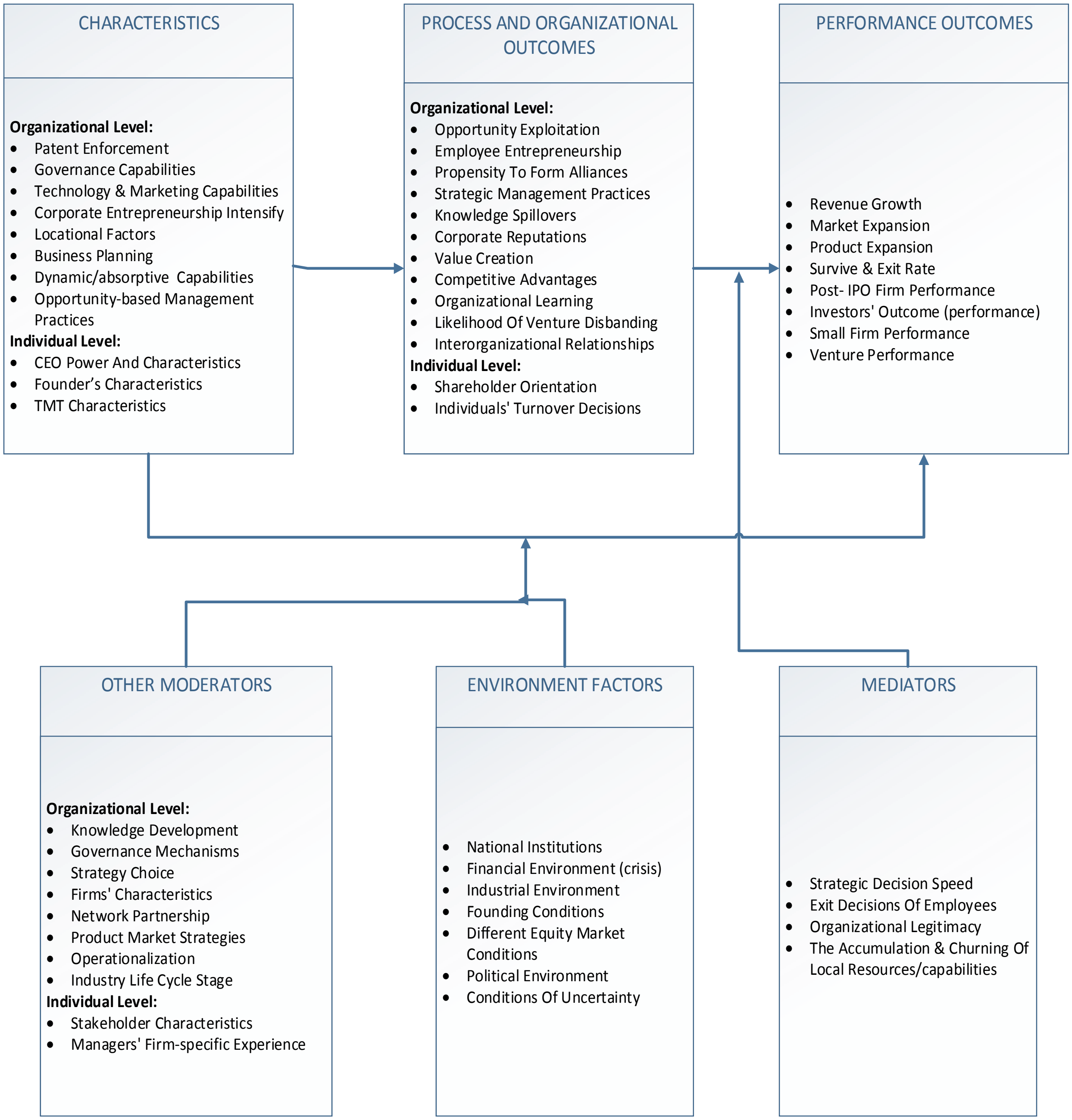
(a) Number of paper (DV=performance) **(b)Weight of paper (DV=performance)**

To better capture the change in variables, the authors performed a new analysis for "firm", "industry". The resultant figure captures the change in keywords. Notably, performance has always been an important theme in the past two decades, being a highly utilized dependent variable. The two main types of performance include high-tech firm performance and venture performance. Researchers studied both entrepreneur's firms themselves, and venture capital firms which invest in the former. The overall attention to performance shifted from venture performance to high-tech firms' performance. In addition, between 2001 and 2010, the environment of the firms, such as the market conditions, industry context, or networks of the firms became a focus.

Correlations

The model in Figure 14 is formulated with information derived from analysis and classification of various variables (e.g. outcomes, mediators, moderates) to synthesize the findings as to what relations we know about entrepreneurship research in strategy venue. This study includes 1) the characteristics and traits that are often the dependent variable, 2) process and organizational outcomes which typically correlate with the characters and which at times lead to performance outcomes, 3) performances outcomes which could result from the characteristics and process and organizational outcomes, 4) environmental factors, 5) other moderators, and 6) mediators. This Figure is by no means exhaustive but rather meant as an integrative framework for understanding the flourishing body of literature.

FIGURE 13
A MODEL OF ENTREPRENEURSHIP RESEARCH IN STRATEGY VENUE



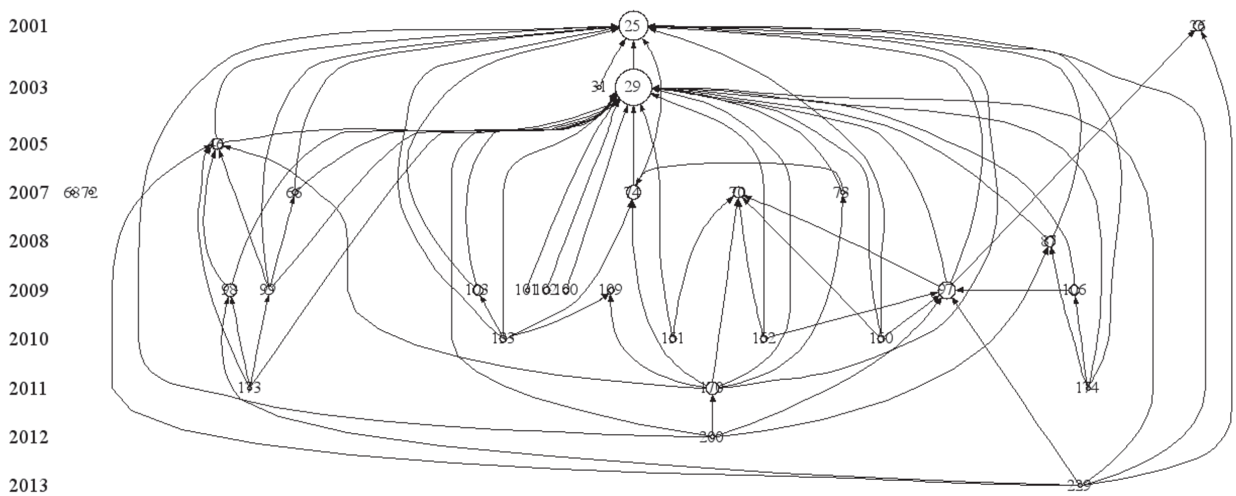
What Is On? – Emerging Trends of Entrepreneurship Research in Strategy Venue

We now offer some general remarks on the few promising directions for future research that we have identified based on our analyses.

Topics Gaining Momentum

Our reading of the existing literature suggests that entrepreneurship research in strategy venue stresses more on economic issues than social issues, viz. studies of entrepreneurship are indeed with an orthodox strategic perspective. This finding is in line the visionary proposition of "strategic entrepreneurship" by Hitt et al. (2001), where the concept is understood as "the integration of entrepreneurial (i.e., opportunity seeking behavior) and strategic (i.e., advantage seeking) perspectives in developing and taking actions designed to create wealth". Hitt et al. (2001) lists several important domains of strategic entrepreneurship, including external networks and alliances, resources and organizational learning, innovation and internationalization, all of which are in line with the results from our bibliometric analysis.

FIGURE 14
"STRATEGIC ENTREPRENEURSHIP" CITATION GRAPH



(*Tips: Record 25:Hitt et al. (2001); Record 29:Ireland et al. (2003)*)

Figure 15 is based on the top 50% cited references. It is clear that Hitt M.A. is the most influential author in the domain of strategic entrepreneurship. In Ireland et al. (2003), strategic entrepreneurship is understood as involving "simultaneous opportunity-seeking and advantage seeking behaviors and results in superior firm performance". A wealth creation model for strategic entrepreneurship is promoted on the basis of the foundation of entrepreneurs' characteristics, resource management, and firm environment (culture and leadership). The foundation affect the creativity and innovation process, which then shape the competitive advantages, and finally realize wealth creation. Our research framework validates and complements their model. Specifically in addition to the entrepreneurial culture and leadership mentioned in their model, this paper found that researchers have been granting systematic attention to industrial environment, financial environment, and uncertainty as the environment factors which would affect the process and performance outcomes. In addition, recent research has examined most individual level (CEOs, founders, and TMT) characteristics, such as CEOs' power and founders' experience. Furthermore, this study identified some mediators between process outcomes (e.g. innovation) and performance outcomes, such as strategic decision speed and the accumulation & churning of local resources or capabilities.

Level of Analysis

While firm and/or industry level remained the main research level of analysis in entrepreneurship study in SMJ, more recent research began to embrace about individual level variables (Fitza et al., 2009, Wang and Bansal, 2012, Cain et al., 2015). We welcome the "come-back" of the individual, especially when neighboring fields are actively embracing the micro-foundation and individual-based insights. An entrepreneur is an economic agent assuming an innovative and active behavior. "The attempt to understand the entrepreneurship without the entrepreneur is like the attempt to understand Shakespeare without Hamlet." (Baumol, 1996). We contend that this presents rich potential with clearly indicated avenues for the influence of entrepreneur-oriented theoretical and empirical development in the strategy field.

Another important trend is studying entrepreneurship with a "multi-level" lens. Research with this level of analysis (Koka and Prescott, 2008, Vissa and Chacar, 2009, Xavier Molina-Morales and Teresa Martinez-Fernandez, 2009, Ma et al., 2011, Milanov and Shepherd, 2013, Walter et al., 2014, Lazzarini, 2015) continue to appear, closely linked to the network perspective and the emergence and development of knowledge-based theory and strategic alliance.

Research Methods

Empirical methods have become increasingly diversified, and we expect such a trend to continue. Most of the papers published before 2010 were conducted with econometrics, while in more recent papers other methods began to be mobilized, e.g. laboratory experiments & archival study (Cain et al., 2015), computer simulations (Keyhani et al., 2015), case study (Amit and Zott, 2001, Paroutis and Heracleous, 2013). We believe more methods will feature in entrepreneurship research in strategy venue, including established ones such as narrative, and newer one that can incorporate big data and visuals.

Related to this, empirical research still dominates entrepreneurship research in SMJ, while theoretical pieces on entrepreneurship have been scarce. While the field represents a pattern of increased coherence in terms of theoretical perspectives, and enhanced efforts in framework building, the current study shows a delay of the theoretical expansion in SMJ. It is perhaps time to direct attention to develop sound theorization for entrepreneurship in strategy venue, given the plethora of theoretical perspectives this venue is typically associated with.

Variables

A number of new defined variables began to appear in entrepreneurship research in SMJ *strategy* from year 2000 on, e.g. *cultural entrepreneurship, network transitivity*, *dynamic capabilities*, and *emergent*. *Performance* has always been one of the most popular dependent variables in all of the three studied time frames, while independent variables, mediator variables and moderator variables changed remained largely constant. Complex relationships between the internal and external variables of the firms are examined in recent research (Eesley et al., 2014, Jia, 2014, Kulchina, 2014, Sundaramurthy et al., 2014, Walter et al., 2014, Lazzarini, 2015).

CONCLUDING REMARKS

This study contributes to the ongoing debate about what the field of entrepreneurship is, or should be, about (Shane and Venkataraman, 2000). Our evidence shows the continued expansion of entrepreneurship research in strategy venue, which represents an increasing body of knowledge on complex phenomena at the intersection of entrepreneurship and strategy.

Today, while the question of entrepreneurship's maturity as a field of study is largely settled (Shane and Venkataraman, 2000, Gregoire et al., 2006), evidence of this maturity has rarely been triangulated with insights from an extra-field venue. This study, as our humble attempt to contribute to knowledge accumulation on entrepreneurship in influential non-entrepreneurship venue, provides an over-the-fence and supplementary view on the state of art of research on entrepreneurship. This supplement is not definitive nor is it intended to be. In mapping out the evolution of impactful work and authors, and predominant themes, our visual-rich bibliometric analysis also makes a methodological contribution by providing a fully replicable, integrated approach to examining the knowledge development in entrepreneurship and other fields.

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Advertising Information, Advertising Precision and Resale Price Maintenance

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As consumers use the retail price as an estimator of product quality, the producer expects the retail price to efficiently signal the quality information. However, in the presence of price competition among retailers, consumers cannot predict quality by observing prices because they cannot identify whether the price discounts result from quality downgrade, or just retail supply's increase. Since market price movements send noises over quality judgement, the producer uses resale price maintenance to control noises from retail supply. When resale price maintenance is prohibited by antitrust law, a rational expectations model predicts that the manufacturer can replace resale price maintenance with advertising.

INTRODUCTION

Advertising and resale price maintenance (RPM) are the main two marketing practices. However, the topic of the relationship between advertising and RPM has rarely been studied. Advertising provides information and establishes brand loyalty among consumers of advertised products. Resale price maintenance (RPM) specifies the final price that retailers charge consumers. Exploring the theoretical basis of the relationship between advertising and RPM, which is this paper's main objective, has implications for channel coordination, price rigidity and antitrust policymaking. After RPM was prohibited, Corning Glass Works was found to increase its advertising expenditures (Ippolito and Overstreet, 1996). On the other hand, price discounts are often offered on heavily advertised products. Eskin and Baron (1977) find that increases in advertising expenditures increase price sensitivity and make price reduction become a more effective way of inducing sales quantities. Albion (1983, p131) observed: "Those brands that are good loss leaders, proposed to be mostly the well-known, highly advertised brands..." et al. (2006) also found less price rigidity among national branded products than private label products.

Resale price maintenance (RPM) is the most important vertical restraint in terms of both its frequency of use and the number of legal cases generated (Mathewson and Winter, 1998, p.60). The motivation behind RPM has been a long-lasting puzzle that many scholars have sought to explain using various models. Telser (1960) argued that if the distributors are not protected by RPM, this enables price discounters to "free ride" on other dealers' investments which involve substantial costs for pre-sales services. Marvel and McCafferty (1984) indicated that the reputation of a retailer has a positive effect on the consumers' perceived quality. They showed that RPM will be adopted when a manufacturer wishes to purchase quality certification from reputable retailers. RPM induces high-quality dealers to carry inventories by protecting their margin. Klein and Murphy (1988) indicated that RPM induced desired dealer services by offering the retailers a guaranteed margin and threatening termination if they did not live up to expectations. Deneckere et al. (1996) indicated that, by means of an appropriate resale price, a manufacturer can encourage retailers to hold inventories by rewarding them.

However, an opposing explanation proffers that RPM prevents consumers who do not value retailers' services from purchasing products at lower prices, regardless of whether or not price-fixing measures are applied to ensure the retailers make a profit or to serve as a cartel between upstream and downstream profits. The Supreme Court of the United States was skeptical of the evidence supporting the service argument because RPM is used for a much wider variety of products than that argument would suggest (Business Electronics Corp. v. Sharp Electronics Corp., 485 U.S. Supreme Court 717, 1988). Mathewson and Winter (1998, p.59) wrote: "The lack of consensus on the appropriate policy towards vertical restraints is matched by a variation over time in the legal status of restraints in the U.S." RPM is a popular marketing practice, and economic theory may affect its legal status.

This paper assumes that the coverage of advertising increases with the manufacturers' advertising expenditures. Given a certain amount of advertising expenditures, the consumers are divided into two groups. The consumers in one group can receive the advertising information, who are denoted as informed consumers, as well as use advertising information and the retail price to infer product quality. The consumers in the other group do not receive the advertising information, are denoted as uninformed consumers, and only use the retail price as the indicator of product quality. The retail price aggregates the advertising information from the informed consumers, and then reveals it to uninformed consumers. The beliefs of uninformed consumers in regard to quality depend on the information conveyed by the equilibrium retail price. The manufacturer expects the retail price to efficiently communicate information regarding quality. However, in the presence of intrabrand price competition, consumers cannot use the retail price as an efficient predictor because they cannot distinguish whether the price movements reflect the variance in terms of quality or the variance in terms of the quantities supplied by retailers. Intrabrand price competition perturbs consumers' predictions of quality and thus increases the uncertainty faced by consumers and results in a lower average retail price.

Retailers do not optimize the prices of individual brands; instead, they optimize prices for the store as a whole. Therefore, retailers have strong incentives to engage in intrabrand price competition in order to earn a reputation for being loss leaders. The "loss leading schemes," also referred to as "variable price merchandising" that constantly raise and lower the prices of various products, give rise to the price variation. As long as a product can draw store traffic, retailers are willing to sacrifice their margins to hold this product. This price variation thus hinders the consumers' ability to correctly predict a product's quality, because the accuracy of the information communicated by the price is reduced. This paper argues that when faced with intrabrand price competition, manufacturers use RPM to communicate information regarding a product's quality through pricing.

However, RPM is prohibited in most OECD (Organisation for Economic Co-operation and Development) countries, subject to a few exceptions that are mostly for books, newspapers, and similar cultural products (OECD, 1997). Even if RPM is not prohibited, the success of the manufacturers in imposing it on retailers is not certain. The objective of RPM is to recoup the price-setting right from retailers, and so the implementation of RPM depends on the power of the manufacturers relative to the retailers. The growing power of modern retailers, such as Wal-Mart, Carrefour and Tesco, may make it difficult for manufacturers to impose RPM. As reported in Dobson (2005), the top four retailers in Britain account for two-thirds of all grocery product procurement, and control in excess of 94 percent of sales through large supermarkets (greater than 1,400 square meters). Even the very largest brand manufacturers will find it difficult to exercise control over the retailers. When RPM is unavailable to the manufacturer, the rational expectations model shows that advertising can serve as a substitute for RPM.

THE MODEL

Lucas (1972), who developed the concept of an equilibrium in which individuals make use of the statistical relationships between endogenous and exogenous variables, initiated the rational expectations equilibrium model. Grossman (1976) analyzed an economy in which traders hold diverse information regarding the return on assets and claimed that investors can infer the asset's return only through the price because all information is contained therein. Grossman and Stiglitz (1980) proposed that the market must contain a source of noise that prevents agents from obtaining all their information from the price and created an incentive to expend resources on obtaining information. Hellwig (1980) argued that as the noise comes from the supply side, the price cannot provide sufficient information; thus, simply observing the price cannot provide enough information to predict the asset's return. Admati (1985) provided generalized solutions for the rational expectations equilibrium models developed by Hellwig (1980). The model presented in this paper is based on the work of Hellwig (1980) and Admati (1985). In terms of the marketing implications of our argument, the model in this paper assumes that a proportion of consumers infer quality both from advertising information and the retail price, while others merely observe retail price as a predictor of quality. The model shows that the increasing number of consumers who receive advertising information gives rise to a substitution effect on RPM. The loss from intrabrand price competition can be offset by the increasing proportion of informed consumers.

Consider a manufacturer that produces one product and faces finite numbers of consumers. Let $\lambda \in (0,1)$ be the fraction of consumers whose expectations regarding quality are based on advertising information and the retail price is denoted by informed consumers. The $1-\lambda$ fraction of consumers who infer quality only by observing the retail price is denoted by uninformed consumers. Except for the retail price and advertising, consumers have no other ways of accessing quality information. Other assumptions are described as follows.

Suppose that the consumers can exchange the utility obtained from the product for monetary units. Under this assumption, consumers can evaluate the product's quality in monetary terms. The consumers' demand quantities, z_d, can be derived by maximizing the expected utility:

$$z_d = \gamma Var(\tilde{q}|\Omega)^{-1}(E(\tilde{q}|\Omega) - \tilde{p}), \tag{1}$$

where Ω is the information set on which consumers base their expectations.The value of advertising information received by informed consumers is

$$\tilde{a} = \tilde{q} + \tilde{\varepsilon} \tag{2}$$

where $\tilde{a}$ denotes the advertising information received by consumers, and $\tilde{a}$ expresses the true quality, $\tilde{q}$, perturbed by noise $\tilde{\varepsilon}$, $\tilde{\varepsilon} \sim N(0,s)$, $s > 0$. Higher s represents more noise contained in the information. So we let s^{-1} denote the precision of information. Assume that $\tilde{\varepsilon}$ and $\tilde{q}$ are independent. The demand quantities of informed consumers and uninformed consumers are $z_d(a,p)$ and $z_d(p)$, respectively. Assume that the random vector $(\tilde{q},\tilde{a},\tilde{p})$ has a joint normal distribution. For informed consumers, the posterior distribution of $\tilde{q}$, given a realization $(\tilde{a},\tilde{p})$, is again normal, and the mean and variance take the following form:

$$E(\tilde{q}|\tilde{a},\tilde{p}) = h_0 + h_1\tilde{a} + h_2\tilde{p} \tag{3}$$

$$Var(\tilde{q}|\tilde{a},\tilde{p}) = v_0 \tag{4}$$

For uninformed consumers, the expected quality, which is conditional upon the retail price, is as follows:

$$E(\tilde{a}|\tilde{p}) = c_0 + c_1\tilde{p} \tag{5}$$

$$Var(\tilde{a}|\tilde{p}) = d_0 \tag{6}$$

Assume that he manufacturer achieves the desired outcome of RPM by reducing the variance of the retailers' supply quantities. This assumption is necessary for the market clearing conditions. The per capita retail supply is denoted by $\tilde{z}_s$, where the $\tilde{z}_s \sim N(\bar{z},u)$ where $\bar{z}, u > 0$ are independent of $\tilde{\varepsilon}$. In markets where extensive distribution systems are necessary, goods are purchased and stocked by retailers after being produced. Retailers can accumulate a certain amount of goods and release them on one occasion while providing price discounts. Reducing the quantity variance, u, is a necessary condition for imposing RPM. A higher value of u represents that the intrabrand price competition is more intense, the manufacturer implements RPM by reducing u.

Under the above assumptions, the equilibrium price, $\tilde{p}$, can be derived by solving the following equation:

$$z_s = \lambda\gamma \frac{\left[E(\tilde{q}|\tilde{a},\tilde{p}) - \tilde{p}\right]}{Var(\tilde{q}|\tilde{a},\tilde{p})} + (1-\lambda)\gamma \frac{\left[E(\tilde{q}|\tilde{p}) - \tilde{p}\right]}{Var(\tilde{q}|\tilde{p})} \tag{7}$$

ADVERTISING AND RPM

The equilibrium price obtained from equation (7) is expressed in Lemma 1. Quality-related advertising can be conveyed by the retail price, but is perturbed by noise from the retail supply. The amount of quality information a consumer acquires is determined, in part, through price. The retail price, in turn, depends on the amount of quality information that consumers acquire. The equilibrium retail price and information acquisition have to be solved simultaneously because each one affects the other.

Lemma 1. The rational expectations price, $\tilde{p}$, for a given value of λ is a linear function of advertising information, $\tilde{a}$, and of the per capita retail supply, $\tilde{z}_S$.

$$\tilde{p} = b_0 + b_1\tilde{a} - b_2\tilde{z}_s \tag{8}$$

where

$$b_0 = \frac{v_0 d_0}{(\lambda d_0 + (1-\lambda)v_0)}\left[\frac{1}{v}\bar{q} + \frac{\gamma\lambda}{(\gamma^2\lambda^2 + us)}\bar{z}\right]$$

$$b_1 = \frac{v_0 d_0}{(\lambda d_0 + (1-\lambda)v_0)}\frac{\lambda}{s}\left[1 + \frac{\gamma^2\lambda}{\gamma^2\lambda^2 + us}\right]$$

$$b_2 = \frac{v_0 d_0}{(\lambda d_0 + (1-\lambda)v_0)}\frac{1}{\gamma}\left[1 + \frac{\gamma^2\lambda}{\gamma^2\lambda^2 + us}\right]$$

$$v_0 = \left[v^{-1} + s^{-1} + (s + us^2(\gamma\lambda)^{-2})^{-1}\right]^{-1}$$
$$d_0 = \left[v^{-1} + (s + us^2(\gamma\lambda)^{-2})^{-1}\right]^{-1}$$

Proof: Substituting (3), (4), (5), and (6) into (7), we obtain

$$b_0 = \frac{\lambda h_0 d_0 + (1-\lambda)c_0 v_0}{\lambda(1-h_2)d_0 + (1-\lambda)(1-c_1)v_0} \tag{9a}$$

$$b_1 = \frac{\lambda h_1 d_0}{\lambda(1-h_2)d_0 + (1-\lambda)(1-c_1)v_0} \tag{9b}$$

$$b_2 = \frac{d_0 v_0}{(\lambda(1-h_2)d_0 + (1-\lambda)(1-c_1)v_0)\gamma} \tag{9c}$$

Given assumption A.4., the triple $(\tilde{q}, \tilde{a}, \tilde{p})$ is normally distributed with variance-covariance matrix Σ : $\Sigma = \begin{bmatrix} v & v & vb_1 \\ v & v+s & vb_1 \\ vb_1 & vb_1 & b_1^2(v+s) + b_2^2 u \end{bmatrix}$. Following the techniques in Admati (1985), we can obtain the values of v_0, d_0, h_1, and h_2, and by substituting them in (9a), 9(b), and 9(c), we have Lemma 1. Q.E.D.

The price in equation (8) aggregates the advertising information from informed consumers, and then reveals it to the uninformed consumers. Chan and Leland (1982) and Cooper and Ross (1984) demonstrate that when both informed and uninformed consumers exist in a market, the price conveys information about product quality; thus, informed consumers provide a positive externality to uninformed consumers. However, the equilibrium price in equation (8) cannot be a sufficient statistic for the product's quality, since the noise comes from the retail supply. Manufacturers are concerned with how the expectation of the equilibrium prices, $E(p)$, is affected by changes in the parameters of the probability distribution and the proportion of informed consumers. Since the lower expected retail price represents lower demands, this inevitably results in lower revenue that the manufacturers receive from the retailers. Proposition 1 indicates how the intensity of intrabrand price competition impacts the expectation of the equilibrium price.

Proposition 1. The higher the variance of the supply quantity, u, leads to the lower expectation of the equilibrium price, $E(\tilde{p})$.

Proof: The expectation of the equilibrium price can be obtained by calculating the expectation in (8):

$$E(p) = \bar{q} - \frac{d_0 v_0}{(\lambda d_0 + (1-\lambda)v_0)\gamma}\bar{z} \tag{10}$$

We now show that $\partial E(p) / \partial u < 0$.

Equation (10) can be rewritten as follows:

$$E(\tilde{p}) = \bar{q} - \left[\lambda v_0^{-1} + (1-\lambda)d_0^{-1}\right]^{-1} \gamma^{-1} \bar{z} \tag{10a}$$

Differentiating v_0^{-1} and d_0^{-1} with respect to u gives

$$\frac{\partial v_0^{-1}}{\partial u} = \frac{\partial d_0^{-1}}{\partial u} = -\left[s + us^2(\gamma\lambda)^{-2}\right]^{-2} s^2(\gamma\lambda)^{-2} < 0 \,.$$

Therefore, it follows that

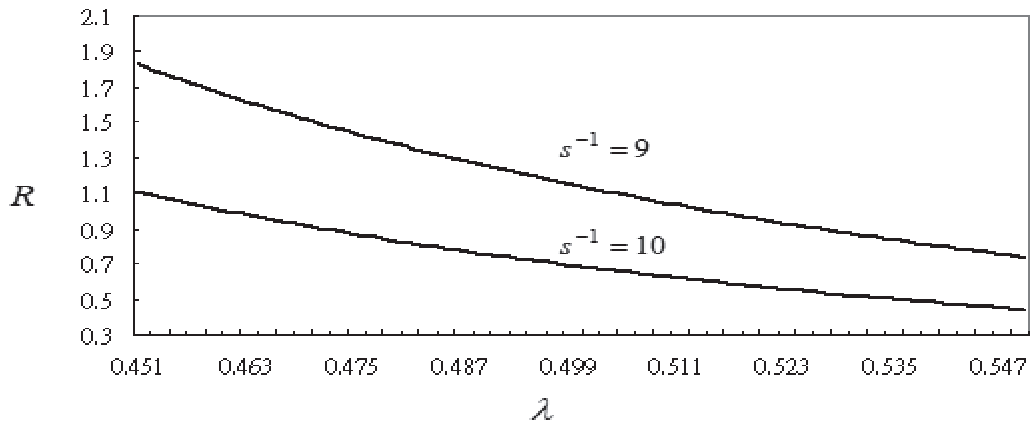
$$\frac{\partial E(\tilde{p})}{\partial u} = \left[\lambda v_0^{-1} + (1-\lambda)d_0^{-1}\right]^{-2}\left[\lambda\frac{\partial v_0^{-1}}{\partial u} + (1-\lambda)\frac{\partial d_0^{-1}}{\partial u}\right]\gamma^{-1}\bar{z} < 0 \text{ .Q.E.D.}$$

Proposition 1 explains why a manufacturer uses RPM. Because RPM reduces U, then $E(P)$ increases. As previously noted, intrabrand price competition involves price movements, and a more volatile supply quantity is a necessary condition for a more volatile retail price in order to ensure market clearing at any given time. Hence, we use the variance of the supply quantity, u, to represent the intensity of intrabrand price competition. Intrabrand price competition perturbs consumers' predictions of quality; therefore, it increases the uncertainty faced by consumers, resulting in a lower expected price that consumers are willing to pay. For example, if a retailer frequently offers price discounts on a product, consumers cannot distinguish whether it reflects low quality or is just a result of increasing quantity. As u increases, the consumers' uncertainty over quality will increase because the equilibrium retail price is not reliable enough to be a predictor of quality. Consumers will demand a higher risk premium to compensate for the additional uncertainty they face, and hence the price that they are willing to pay will decrease. Dodson et al. (1978) studied the effects of different types of coupons on consumers' loyalty behavior and found that price promotions reduce future purchase probabilities. Similar conclusions were drawn by Jones and Zufryden (1981), who found that the repurchase probability after purchasing on-promotion items was lower than that of not purchasing promotional items. Kalyanaram and Winer (1995) indicated that the promotions erode purchase probabilities by lowering reference prices. As a result, consumers might be more reluctant to pay regular prices or to tolerate price increases.

The absolute value of $\partial E(\tilde{p})/\partial u$ can be seen as the benefit of RPM. As previously noted, reducing the variance of retail supply u is a necessary condition for imposing RPM. So we denote the $R = \left|\partial E(\tilde{p})/\partial u\right|$ as the benefit of imposing RPM. Then we use numerical method to show how other variables affect R. Higher R represents that the manufacturer has more incentives to use RPM.

FIGURE 1
THE BENEFIT OF RPM

$u = 0.1, \quad \gamma = 0.1, \quad v = 0.1, \quad \overline{Z} = 10$



In Figure 1, we can see as the more consumers receive private information, the fewer manufacturers incentives to use RPM. As previously noted, R represents the benefit of using RPM, a decrease in R means that the demand for RPM declines. Figure 1 indicates that as the proportion of informed consumer increases, the need for using RPM declines. The economic intuition is explained as follows. The demand for the product, which is given in equation (1), indicates that a decrease in $Var(\tilde{q}|\Omega)$ leads to a higher value of the product. First, we compare the $v_0 = Var(\tilde{q}|\tilde{a},\tilde{p})$ and $d_0 = Var(\tilde{q}|\tilde{p})$ in equation (8). Observing additional information reduces the conditional variance of informed consumers, and therefore the v_0 is lower than d_0. This means that the average uncertainty faced by all consumers decreases as more consumers access advertising information. In addition, as more consumers observe advertising, the more information regarding quality is revealed by the retail price. So the conditional variance of quality faced by uninformed consumers declines due to the more reliable information reflected by the price. The value of a product to a risk-averse customer is lower than the product's value would be if all information were available. As more customers observe information, more of the uncertainty is removed and the value of the product increases.

When the proportion of informed consumers increases with the advertising expenditures, the need for RPM declines because the dependence on the retail price for purchase decision-making gradually decreases. Dodds et al. (1991) show that the consumers use price as a signal of quality if they lack information to make a choice. However, the dependence on price for assessing quality declines in the presence of other information such as brand names and advertising. On the other hand, a number of studies find that advertising increases the price sensitivity of consumers (Eskin and Barron, 1977; Wittink, 1977; Schroeter et al. 1987). Advertising causes the price reduction to become a more effective way of inducing sales quantities. This is because, when the proportion of consumers who possess advertising information is low, the price reduction may not bring expected results due to the increase in uncertainty over quality. Advertising reduces the uncertainty over quality resulting from price variations and makes the demand curve more elastic. In practice, the products that appear most frequently in sales promotion are maturing and heavily-advertised brands. Albion (1983, p131) finds that price promotions are often provided on the heavily-advertised goods. These are often famous brands that are nationally available and widely used. Therefore, consumers will not be confused by the price variation, which has a negative effect on prices in the long run when there are fewer informed consumers. This result needs to be considered in the antitrust policy making. The necessity of granting exemption for RPM decreases when more consumers access private information. Figure 1 also indicates the more information precision reduces the need for imposing RPM. The higher s^{-1} (or the less s) reduces the uncertainty faced by all consumers. For informed consumers, the higher s^{-1} let private information communicate more accurate value of quality. For uninformed consumers, the higher s^{-1} let retail price reveal quality information with less noise. The demand for adopting RPM reduces if consumers could purchase with precise information. This result gives an implication for antitrust policy maker, if the regulator enforces the law of false advertising (misleading advertising) more strictly, the necessity of granting exemption for RPM will decrease accordingly.

CONCLUSIONS

This model divides consumers into two groups: those who infer quality strictly by observing the retail price and those who infer quality using both advertising information and the retail price. The noise of price from retailers increases consumers' uncertainty regarding quality and imposes a negative externality on manufacturers. Marketing decision-makers must determine an appropriate pricing strategy that accounts for negative externalities from intrabrand price competition. The consumers' uncertainty over a product's quality, which can be affected by the pricing strategy adopted, plays a major role in the product's prospects for success. A volatile price makes uninformed consumers feel "unsafe" regarding the product's quality because they cannot determine whether the price discount reflects low quality or if it is merely a result of increased retail supply. In the presence of supply noise, the retail price does not fully reveal advertising information regarding quality, and thus manufacturers are encouraged to adopt RPM. When RPM is unfeasible, the manufacturer increases advertising expenditures to transmit quality information. The need for RPM to let price reveal quality decreases, the result of which is a substitution effect of advertising on RPM. In general, RPM is prohibited in most OECD (Organisation for Economic Co-operation and Development) countries (OECD, 1997). Opponents question whether RPM is used for a much wider variety of products than the service argument would suggest. They contend that manufacturers use RPM to maintain cartel prices and reduce competition among retailers. This paper suggests that in the rational expectations model, RPM may be used to inhibit the mobility of a price rather than to maintain a sufficiently high price. As the number of uninformed consumers decreases, the risk reduction role of RPM gradually diminishes as well. The need for RPM to ensure that price efficiently communicates information declines as advertising information diffuses and advertising precision increases. The results regarding the relationship between advertising and RPM should thus be considered in antitrust policymaking and market decision-making.

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Socio-economic Conflicting Issues Embedded in Bangladesh Liberation War in 1971: Coverage of the *New York Times*

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This study explored the impacts of the coverage of the Liberation War of Bangladesh in 1971 by the New York Times. In the backdrop of the Cold War phenomena the United States reportedly took a position against Bangladesh's liberation while the war created a humanitarian orgy of killings, rapes, and the dislocation of millions of people. The war impacts still haunt the nation as the incumbent Bangladesh government began trials of "war crimes" and already executed some opposition leaders for alleged collaboration with the Pakistani Army. As the first textual analysis of the Times' coverage of the Bangladesh War in the postcolonial era, the study revealed that the Times played a humanitarian role but was seemed influenced by the confrontation with the Nixon Administration on secret papers and policies of wars, popularly known as "Pentagon Papers."

INTRODUCTION

Bangladesh Liberation War and the Cold War

The birth of Bangladesh in 1971 as a breakup of Pakistan through a civil war was the result of one of the most crucial postcolonial conflicts in the Cold War contexts. This war led Pakistan and India into their third war after Britain had to quit the subcontinent in 1947 (*New York Times*, December 25, 1971). According to Anthony D. Moses (2011), Bangladesh war also resulted in a standoff between the United States and the Soviet Union, which reportedly "allied" with India in the breakup of Pakistan, while the U.S. "opposed" that. The *New York Times* (December 25, 1971) also viewed that "The birth of a nation could hardly be less auspicious than the emergence of Bangladesh as the third major independent state of the Indian subcontinent." This consequence of the conflict attracted worldwide public and media attention that also had some relevance with the legal fight between the White House and the *New York Times* about printing of the "Pentagon Papers" (Hollen, 1980).

According to Rounaq Jahan (1995), the Pakistani army killed approximately three million people and raped a quarter million women, while Kevin Rafferty (2013, November 16) put the killing figure as up to 100,000 people. Q.M. Jalal Khan (2018) cites that there are controversies about the Bangladesh War casualties.[1] From a different standpoint of the war scenario, Sarmila Bose (2014, 2010, 2005) states that the war was simultaneously a battleground for different kinds of violent conflicts that ensued military crackdown on a civilian population to full-scale war between India and Pakistan. Nayeem Mohaiemen (2008) states, eventually, the Bangladesh war became a crucial spotlight and a crusading issue for the *New York Times,* which covered most news stories via Indian sources and columnists, such as Khuswant Singh (August 1, 1971).

After about a 10-month-long war for freedom from Pakistan, the people of Bangladesh (formerly East Pakistan) achieved their independence on December 16, 1971 "with eventual Indian help" (Riaz, 2014, p. 122) based on the Bangladeshi or Bengali nationalism, a controversial issue a nation has long been confronting (Khan, 2018, Murshid, 1993). Benjamin Zeitlyn (2014) also adds that the shared history and shared forgetting about the events of 1971 are contested as well as nationalism in Bangladesh. About this disconcert, Bose (2014) further opines, this must be the only country in the world where there are two views on the independence of the country. Jahan (1995), however, claims that the unique significance of Bangladesh is that it was the first nation-state to emerge after waging a successful liberation war against a postcolonial state.

Another significant phenomenon was Nixon Administration's support for a unified Pakistan. Washington did it to use Pakistan as a mediator with China in a new cold war strategy (Hollen, 1980). Rafferty (2013) and Samuel Tofte (2011) state that US president Richard Nixon and Kissinger made common cause with Mao Zedong's China in backing the Pakistani generals, who were useful in forging the US-China rapprochement. Bose (2014, 2010, 2005) thinks that the Cold War served as the international backdrop to this regional conflict within Pakistan and between India and Pakistan. The U.S. 7th Fleet stalled into the Bay of Bengal faced a resolute Russian fleet bringing the world on the brink of a nuclear confrontation over the birth of Bangladesh after Cuban crisis (Hollen, 1980).

PURPOSE AND SIGNIFICANCE OF THE STUDY

The study explored how the *New York Times* covered the war in the midst of the Cold War and in which case the U.S. took a position against Bangladesh's independence. Many academic researchers, politicians, and social activists researched the media coverage of this war in general but there was no in-depth textual analysis to see the focus, importance, and interpretation that reflect frames and tones from the viewpoints of professional journalism. The frames and tones usually determine the media coverage **(**Golan, 2006). While most researchers followed their own frames and tones from other emotional points of casualties of East Pakistanis (Bengalis), very few looked impartially at the other sides—what happened aftermath the war, in which case the defeated parties also reportedly incurred wraths of Bengalis (Redclif, 2011)**.** Victoria Redclift (2011), giving example of Biharis who supported united Pakistan, stated the regressive situation of Biharis, as they remained stateless until 2008.

What the media, especially the *Times* in early December (1971) also warned as "the blood and bitterness—internal and external—that may long plague the new Bengali nation and its neighbors" is still severely felt. The bitter consequences of the Bangladesh war even after about 50 years are exposed in hostile relations as the incumbent Bangladesh government started trials, and already executed some leaders of the then "pro-unity" political parties, which are at present in the opposition. Again, this 1971-war related trial raised controversies and conflicts locally and internationally (Moses, 2011). Many scholars, such as Rafferty (2013) state that war tribunal has been criticized as flawed by many human rights organizations, which even support bringing the 1971criminals to justice, because of the danger of "controversial death penalties." Internally, almost no one dares to raise voices against the tribunal courts, which are alleged as politically biased (*Hindu*, April 24, 2014). This Indian newspaper the *Hindu* also reported: on April 17, the Bangladesh's War Crimes Tribunal initiated contempt proceedings against the Dhaka-based British journalist David Bergman for, among other matters, questioning the death toll from the country's 1971 war. Bergman (December 13, 2018) again in a recent story argued about the misstatements of the war casualties as well as the loopholes of the Tribunal.

The facts and figures of the war casualties are also a matter of dispute at the level of researchers. Some scholars, such as Jahan (1995) and Nayanika Mookharjee (2006) claim that some millions of people were killed, and about a couple hundred thousand Bengali women were raped. Many other scholars, such as Bose (2014, 2012), Khan (2018) dispute this figure including some of the media reports. On the other hand, Sayeeda Saikia (2004) thinks the inner conflicts within the communities that led to rampant violence against women in the wars were overlooked and women's voices were actively silenced and their experiences invisible in the Bangladesh's official history.

Journalists, who included overseas reporters, could not cover the war news easily due to Pakistani Army's restrictions on and confinement of journalists (Mascarenhas, 1971). Yet, some foreign journalists, including Sydney H. Schanberg of the *Times*, were able to escape from the confinement and covered some pieces of the incidents (Dring, 1971). According to Fazlul Quaderi (1972), other journalists returned to their countries and wrote reports on the Pakistani military crackdown. The *Times* covered the Bangladesh war amidst emotions, and notions regarding the war and crimes perforated by the actors—local, regional and global. The study needs to look at those complex issues and factors whether the news media could have dealt with those from the factual, neutral, and objective points of view.

This study selected the *New York Times* because it is considered one of the national "newspapers of record" in the United States. Maxwell McCombs (2005), Guy Golan (2006), and Ratliff and Hall (2014) say that the *Times* is often an agenda-setter to other newspapers and the news outlets. The *Times* is also known as a liberal and elite national newspaper (Fuller and Rice, 2014). It is, therefore, important to see how and what role the *Times* played on that crucial questions around adequacy and effectiveness of the response to a crime against humanity and human rights—that remains important to be explored further.

The study attempted to answer primarily three research questions: What were the prominent frames used by the *Times* in its coverage of Bangladesh independence war? Prominent frames, here, refer to the frequently focused importance and interpretation of facts. Also, were there any signs of political overtones and racially biased inputs from the news, views, and images the *Times*? And what were the impacts of bias and overtones, if there was any? These frames and tones are important determinants of the news coverage. Also, it is important to see whether the viewpoints of other academic research are similar to or different from the frames and tones reflected in the news media coverage.

LITERATURE REVIEW

The news media tend to cover conflicts and hostilities—local, regional, global—from the broader perspectives of superpower rivalries. According to Donald Beachler (2007), the massive communal violence that occurred in East Pakistan in 1971 received worldwide attention at that time**.** M. Mamoon (2002) also observes that Bangladesh War had aroused conscience and sensibilities of people around the world, including the U.S. Extant literature showed that the Bangladesh War was covered from the perspectives of Prickly Condition of the Sub-continent, News Media's interests in Conflicts, and "Crusading" Role of the *New York Times*.

The division of subcontinent into India and Pakistan in 1947 was against the will of the then Indian leaders. These two countries were never on good terms. Both the countries fought two more wars before 1971, especially on the claim on Kashmir. A. D. Moses (2011) thinks that according to many Indians and Pakistanis, Bangladesh War was another "Indo-Pakistani War of 1971." It is evident from the fact that Indian army's invasion of E. Pakistan forced Pakistan's surrender, and that surrender was to the Indian army (Sen, 2013). Rashed Chowdhury (2015), a Bangladeshi freedom fighter in 1971 as he claims, and who served as a Bangladesh Ambassador to some countries that include Japan, also writes, "Indian support for Bangladesh's independence was deep-rooted. Since…1947, India never felt comfortable that its archenemy Pakistan flanked it from the east and west…. The chance of a life time knocked at India's doors in 1971" (2015, pp. 289, 290)." Q. M. J. Khan (2018) thinks that Bangladesh situation has been the results of historic ethnic politics of the Indian subcontinent and Indo-Pakistan rivalry. Khan in this regard quotes from Pundit Jawaharlal Nehru's "Nehru Doctrine" as sketched in his *Discovery of India*. "India will inevitably exercise an important influence," (p. 371), as Nehru said about the future of the sub-continent. In this regard, Anisur Rahman (2017) also says that even Indian leader Mahatma Gandhi along with Nehru used to say openly that Pakistan would not sustain long" (p.322).

S. Bose **(**2014, 2012) views, the Cold War also served as the international background to this regional conflict. According to S. A. Siraj (2014), after independence from the British, both the countries warred over the territory of Kashmir in the Himalayas. In the series, the war on Bangladesh became the third.

According to Jasjit Singh (1999), India and Pakistan also fought the fourth major war on Kashmir in 1999, known as Kargil War**.**

The news media, more likely than not, present news and views in their own styles that frame the news—professionally, and economically as well as politically, and ideologically. Media scholars thus discern that conflict is one of the popular elements of news frames. R. E. Hiebert (2003) views that any warfare and propaganda are integral parts of the media. Scott Althaus (2018, 2006) and E. Herman, & N. A. Chomsky (1988) argued that the news media played a key role in forming public opinion in favor of or against wars and conflicts. S. D. Cooper (2006) says it is difficult to find a piece of journalism that offers no interpretation of the facts it contains. Where foreign events are involved, the news media typically obtain information from official sources close to home (Hossain, 2015), with an inevitable bias in terms of framing of issues and events (McQuail, 2010). In regard to frames and or tones, D. V. Dimitrova and J. Stromback (2005) discussed different types of war frames used in the mainstream news media.

Daniel McQuail (2010) states that the U.S. media, even the *New York Times,* were found supportive of the U.S. government views about events or crises**.** R. M. Entman (2010) says the U.S. media select a portion of reality by using specific words and images in reporting. Scott Althaus (2018) also criticizes the U.S. media, which usually support the interest of the country. S. L. Carruthers (2000) finds a relationship between the U.S. defense industry and the news networks in collecting news. Though Althaus (2018, 2006) criticizes the U.S. media for usually supporting the interest of the country, other scholars, such as Mohaiemen (2008), Quaderi (1972), and Hollen (1980) stated that the leaking of the Pentagon Papers to the *Times* and the subsequent government lawsuit against its reporter, Daniel Ellsberg, had set a confrontational path between the American journalists and the embattled Nixon White House. On the basis of the literature reviews, it can be assumed that the New York Times took an anti-government role in the case of Bangladesh war.

METHODS

Scholars, such as M. McCombs (2005) Guy Golan (2006), and Ratliff and Hall (2014), and Ryan Fuller and Ronald Rice (2014) observe that a news story provides a historical narrative and offers readers more in-depth information of the issue on focus under discussion and editorials usually interpret and analyze the stories. In view of that this researcher tried to incorporate all the major news stories, bylines, editorials, and letters to the editor on Bangladesh war covered by the *Times*.

Data Collection

In the course of searching, the researcher found the bound volume of the *New York Times* news stories and editorials published under the *Pakistan Index (Times Index 1971)* in abridged format. However, 71 news stories, 21 editorials, and were 19 letters found in full format surfing through the website of Newspaper Reports 1971 of the Bangladesh Genocide Archive, besides University of Southern Mississippi (USM) microforms.

For the online searches, some keywords which include *Times*, news reports, 1971, War, Pakistan, and Bangladesh, were used. Of the 71 news stories, some are byline of its reporters, some by different news agencies, and some by independent writers. This researcher analyzed all the items of news and views. The incidents of a period of 10 months (March to December 1971) when the war took place and its preludes that started from the beginning of the year (1971) helped the researcher develop a better narrative of the war and related events in the *Times* as well as the actions of the U.S. Administration. The war ensued on March 25 and ended on December 16, 1971, with the surrender of the eastern wing of the Pakistani Army to the Indian Army.

FINDINGS AND DISCUSSIONS

The textual analysis tried to ascertain the frames and tones used by the *New York Times* news and views that covered the 1971 Liberation War of Bangladesh and their impact on the people. The impacts of the coverage came out through the writings of the columnists and its editorials. The study reveals that the coverage mainly included the issues of conflicts and war, which would lead to humanitarian problems, escalation of more hatred and clashes among the peoples and nations of the region, and the world superpowers as well.[2] The discussion attempted to relate the features of the findings.

Reporting of the Conflict and Military Crackdown

The *New York Times* started reporting on tensions in Pakistan from the beginning of 1971 that seemed factual without bias or political overtone. The reports of the political conflicts among politicians and military rulers started following the military ruler's refusal to hand over power to East Pakistani leader Sheikh Mujibur Rahman (known as Mujib) whose regional party, based in East Pakistani, won the majority of seats in the national assembly. A January 31 (1971) report said Mujib instructed banks, industries and government officials to control transactions so that no capital moved out to the West Pakistan. The *Times* (January 31, 1971) termed it "East Pakistan's self-rule broadened."

Throughout the month of March 1971, the *Times* reported negotiations among the Pakistani politicians, general strikes called by Mujib, violence, and killings due to clashes among different forces and law enforcement agencies, and finally military crackdown at the night of March 25.[3] In the meantime, Grace Lichtenstein (March 27, 1971) reported ouster of its own correspondent, S. H. Schanberg with 34 other foreign newsmen. After that expulsion, the *Times'* reports and editorials seem to take a "crusading" trend, as mentioned by some researchers.

Crusading Coverage

The media took the war coverage as a "crusading" issue to let their readers and the people of the world know what had been going on involving a war. There were some genuine reasons behind that crusading coverage—"genocide" "rapes" and violence committed by the Pakistani army in Bangladesh, and displacement of millions of people who took shelter in Indian refugee camps. Consequently, it was expected that the *Times* would focus more on the sufferings of the people and violence in the war than other issues (Jahan, 1995; Mamoon, 2002).

A special report "Toll called High" with dateline New Delhi referring to an Indian press report (no name of the press) said about 10,000 people were killed in Pakistani military operation in different areas of East Pakistan (Times, March 28, 1971). Successively, *Times* reported that the U.S. military planes started evacuation of American citizens from East Pakistan. Later, the *Times* (March 31, 1971) published a report with illustrations on the formation of a provisional Bangladesh government.[4]

On May 2 (1971), another article by Peggy Durdin described the war scenario as one of the bloodiest slaughters of modern times. Meanwhile, Pakistan allowed six foreign journalists including M. Browne of the *Times* into East Pakistan. The journalists did not believe in official versions of the situation, as journalists were escorted to the designated places of "normalcy." A. Mascarenhas (June 13, 1971) reported in London that troops "deliberately massacred" people. On July 1 (1971), *Times* reporter Schanberg was again expelled from E. Pakistan. Nonetheless, the *Times* started to warn the parties in conflict, especially Pakistan, about an escalation of internal and regional hatred among the communities and nations with severe consequences. Some of the *Times*' letter writers also warned both Pakistan and the U.S. administration about the consequences of the "inhuman acts of violence" (April 5, 1971).

Warning of Consequences and Internal Pressure

In its prognostic view, the *Times* in an editorial (March 28, 1971) said that resort to force by both sides was a tragic mistake that could only inflict horrible new suffering on Bengalis, recent victims of one of the history's worst natural disasters. Another *Times* editorial titled "In the Name of Pakistan" (March 31, 1971) said the struggle in Pakistan could have dangerous strife among communities in the subcontinent with international consequences, especially if a prolong guerrilla warfare ensued. By the term communities, the *Times* might have meant between Bengalis and pro-unity Bengalis and Biharis, migrated from India to E. Pakistan in and around 1947 when the British quit India. By nations, it obviously meant Pakistan and India which were in hostile relations since 1947 liberation. International consequences would mean by the involvement of super powers, especially the U.S. and the then Soviet Union entangled in the Cold War. Cultural differences between the peoples of Pakistan were also the issue of the *Times* coverage.

The *Times* from the very beginning warned the nations, especially Pakistan and the U.S., about the dire consequences of the conflict and its escalation across the borders. No government heeded to those, rather their actions resulted in the escalation of the hostilities leading to war between India and Pakistan. In that situation, Soviet Union supported India diplomatically and militarily while the U.S. and China supported Pakistan. The *Times'* writers condemned both the American and Pakistani actions, obviously because of their wrong steps that led Pakistan to the civil war and consequently to the war with India.

While the *Times* criticized the UN for its failure to settle the matter of conflict and bloodshed, the *Times* did not criticize the Soviet veto to the UN resolution to stop the escalation of war and bloodshed. The *Times'* coverage of internal pressure on the Nixon Administration and continuous criticisms of both the U.S. and Pakistani regimes by its writers and editorials could be interpreted as its unequivocal support for the Indian policies. Hence, there might be a question that hadn't India been a party to this problem, what would have been the *Times'* role in the Bangladesh war. The *Times'* support to the Indian position against Pakistan and its writers' belittling views of the Bengalis and doubt about future of the nation led the researcher to this inference. Its legal fight with the administration which was supporting Pakistan might have also influenced the *Times* to take a warpath position against Pakistan versus its "friendly nation."

A Friendly Nation: India

Times' news and views urged the Nixon Administration and international communities, especially the United Nations to exert pressure on the Pakistani regime to hand over power to the elected representatives of the East Pakistan to reconcile the hostility. *Times'* writers, however, maintained a low profile to express their concern (probably, not at all) about the breakup of Pakistan in a situation of fire-band and misunderstanding. Pakistani regime alias West Pakistani partners had been making injustices to its eastern partners, no doubt, but no *Times'* writing suggested any specific formula or terms of negotiations between the two sides of Pakistan. Almost all the news and views of the *Times* highlighted the differences, especially culture and language, between the two parts. Pakistan had long been a crucial partner of the U.S.in the global and sub-continental politics and was helping the U.S. in negotiation with China at a Cold War strategic situation. The *Times* never called it a "friendly" nation. Ramesh Thakur (1993), understands that India was one of the leading founding members of the Non-Aligned Movement (NAM) and historically sided with the Soviet Union during the Cold War time what no U.S. Administration liked.

Socio-Economic Disparities and Differences in Cultures

In an article on March 27 (1971), *Times* said that Pakistanis were bound chiefly by their common religion but differ in East and West in culture and language. An article by Joseph Lelyveld **(**April 7, 1971). held that the idea of Pakistan as a nation built on shared faith of Islam was an abstraction. P. Durdin's (May 6, 1971) article said that the roots of tragedy in Pakistan were in geography, history and the nature of man. Indian writer Khushwant Singh's article (August 1, 1971) as well as Natasha Chowdhry (1971) depicted that grievances over language and the economic exploitation gave birth to E. Pakistani nationalism, which soon crystalized as a demand for an autonomous homeland.[5] Virtually, it was not E. Pakistani nationalism (as Sing hinted), it was rather Bengali/Bangladeshi nationalism which has had a connection with India across the border (people of some east-Indian states also speak the same language, which is Bengali). Some other *Times'* writers also highlighted the cultural differences vis-à-vis the religious-bond that brought them together once. Singh also narrated incidents of rapes of young women by the Pakistani army. None mentioned about rapes of Bihari women and killings of their men and children, in cases, indiscriminately. This article discusses those issues separately.

The issues which shattered the feelings of unity among the peoples of East Pakistan and West Pakistan were found tangible in 1947 when it achieved independence from the British. But later actions of disparities and domination by the west part on the east embittered that unity. The news and views of the *Times* have highlighted those issues that made some impacts along the line of that particular situation influenced by the local, regional and global politics of that time. Anthony J. Marsella (2005) also points out that conflicts relative to culture involve parties with differing constructions of reality regarding the distribution of power, control, and influence. The *Times* picked up those of the culturally taunted views, such as one made by a Pakistani army officer about the East Pakistanis. The *Times* made the headline: "Bengalis are chicken hearted." In a separate story, the *Times* headlined "Pakistan's Jihad" (holy war). Another headline said: "An alien army imposes its will." As a sign of overtone, *Times'* Malcolm W. Browne's article titled "Pakistan's Loss: A Disaster or a Blessing" (December 25, 1971) also dubbed Bangladesh as a "sick siamese" and "overcrowded, under-endowed, and storm-plagued."

Humanitarian Havocs

As a concern for the spiraling humanitarian problem, *Times*' editorial (March 31, 1971) titled "In the Name of Pakistan" stated that U.S. had a humanitarian duty on this crisis the Pakistani regime created in E. Pakistan. Another later editorial (April 7, 1971) titled "Blood-bath in Bengal," expressed concern about Nixon's persistent silence about indiscriminate slaughter of civilians of East Bengal. Consecutive reports by S. H Schanberg (in April and May 1971) apprehended possibility of famine in some areas, especially in the squalor Bengali refugee camps in India. An allegoric editorial (May 12, 1971) titled "The Vultures of Bengal" said that fat vultures brood over the ravaged towns of E. Pakistan as the testimony of the slaughters of the Bengali separatists by the Pakistani army. Follow-up reports also stated humanitarian sufferings as such (M. Browne, May 16, 1971).

On May 30, India announced uncontrollable epidemic of cholera broken out among Bengali refugees. An early June report called the situation as misery, sickness, hunger, and death among refugees while an illustration showed a refugee woman watching over her child dying of cholera. Follow-up reports stated hundreds of refugee children dying daily from malnutrition and diseases. Meanwhile, a report said about 6,000 refugees had returned to E. Pakistan due to disgust, fear, and grief from the local people in the eastern states of Meghalaya and Assam bordering Bangladesh (E. Pakistan). Even, Calcutta Mayor, Mr. Gupta, demanded cordon around the city to prevent the further influx of refugees (Schanberg, May 7, 1971). However, India appealed for outside help to cope with the mounting flow of refugees from E. Pakistan at a rate of "60,000 a day." In helping the refugees, George Harrison organized concerts in New York, while apathy at the official level in the U.S. prevailed.

The *Times* prominently underscored the humanitarian issues, especially relative to the Bengalis—killings, rapes, deaths and sufferings from diseases, malnutrition, scarcity of food and medicine and so on. The *Times* also reported some pieces of brutalities on the Biharis and other pro-unity Bengalis by Bengalis, but the coverage about the latter seemed fell short, especially as they were the defeated groups. Both Bose (2014, 2010) and Saikia (2004) revealed from their field investigations that all the sides across the pro-liberation and pro-unity isles severely suffered from brutalities. The perpetrators were dispersed among all sides to the conflict. There were alleged wild exaggerations or plain fabrications or distortions of the facts in one hand and overshadowing of the grimmer reality of the war on the other.

In reality, Bose in her "Fragments of Memories" (2010, 2005) said that the foreign reporters were based in New Delhi, capital of India, and had to rely on the Indian and the exiled Bengali sources who might have exaggerated many issues. Moreover, most foreign journalists did not speak the local languages and were entirely reliant on translation by locals, which was a major disadvantage for them. The reporters also made mistakes in ascertaining geographical locations. For example, *Times*' Shanberg's report (April 18, 1971) mentioned it's dateline Agartola, East Pakistan, whereas Agartola is the capital of Tripura, an eastern state of India. According to Bose (2010, 2005), too often even foreign journalists seemed to be tempted by the appeal of the "good versus evil" story. And the news-hungry press swallowed claims of fictitious events which were widely believed (Bose, 2010, 2005). So, there were various types of misunderstanding along the lines.

US-Chinese Apathy vs. Indo-Soviet Sympathy

On April 13, *Times*' reporter Schanberg said that Bengalis were bitter over the U.S. failure to take strong stands against Pakistan and over the use of US arms against them. While the U.S. State Department called the problem as "Pakistan's internal affair," Soviet President Podgorny expressed alarm about the situation in E. Pakistan. China protested Indian interference in Pakistani affairs while the Indian parliament condemned the killings in E. Pakistan. On the contrary, Soviet foreign affairs weekly, the *New Times,* accused China of interfering in the Indo-Pak affairs. Meanwhile, Soviet premier Kosygin met the Indian foreign minister in Moscow.[6]

Stepping ahead, India and the Soviet Union signed a 20-year friendship treaty, which Pakistan and the U.S. considered an arms treaty. In early August, Pakistan charged that Indian artillery-fire killed 20 civilians in E. Pakistan. In this situation, India and Pakistan broke their diplomatic relations, followed by Indian military supplies for the Bengali guerillas in the border areas. In mid-October, Nixon Administration expressed concern over the buildup of troops along Indo-Pak borders and blamed Delhi and Moscow for collaborating to divide Pakistan**.** On the other hand, different internal forces exerted pressure on the U.S. Administration to abandon support to Pakistan. In this case, the *Times* had apparently played an anti-Pakistan role through its criticism of the Nixon policy toward Pakistan. The *Times* said that Nixon's policy made the friendly country India angry.

Pressure on the Nixon Administration

In early May, the U.S. Congress with the Democratic majority passed a bill on arms embargo to Pakistan. The *Times* columnist, A. Lewis, criticized Nixon's failure to make a public statement on the disaster in E. Pakistan and said that this exemplified distortion in American values that had occurred because of Vietnam. Opposing the arms shipment to Pakistan, an editorial titled "Abetting Repression" said this was going on with a shock and anger over the Pakistani savage repression of Bengalis. This was also a break of assurance of no more arms supply to Pakistan given by the U.S. administration to the Indian foreign minister, who earlier visited the White House. The editorial also credited India as a friendly foreign power.[7]

In the meantime, a lot of protests had taken place by civilians, politicians, including "progressive" Republicans against Nixon's support to Pakistan. An editorial titled "Pakistan Condemned" spoke on World Bank (WB) reports published by the *Times* a day before.[8] Strangely, the *Times* editorial did not mention the provisional government of Bangladesh in exile formed on April 10, 1971. Meanwhile, Senator Kennedy went to visit India and denounced Pakistan's military actions against the separatists (Times, August 17, 1971). All these reports and editorials show the *Times* exerted a mode of pressure mechanism to which the Nixon Administration apparently succumbed.

Nixon Administration's Succumbing

Probably, as a sign of easing out internal pressure, Secretary of State, Henry Kissinger, went to Pakistan on July 10 to tell its regime of no more US military aid. But *Times* columnist, A. Lewis, questioned the silence of President Nixon on the E. Pakistan tragedy. On October 5, Ted Kennedy exposed documents of offering arms to Pakistan. Meanwhile, on November 4, Indian Premier Indira Gandhi and President Nixon conferred at the White House. Nixon indicated he would do what it can to help in the context of "existing policy." Gandhi privately said Nixon recognized "sincere" understanding of Indian position. Follow-up reports said that U.S. canceled military export licenses to Pakistan and Nixon might ask Pakistan to release E. Pakistani leader Mujib.[9] On December 3 (1971), the *Times* reported full-scale war between India and Pakistan on both eastern and western fronts. Virtually, the Indian army entered E. Pakistan in October or before, at the advent of Nixon's "sincere" understanding as Indian Prime Minister Indira Gandhi said.

Nixon, by this time, asked the administration to prepare a post-war a relief plan. While the U.S. urged Security Council to make a resolution of an immediate ceasefire and mutual withdrawal in the Indo-Pakistan war, the following day the Soviet Union vetoed the resolution for the third time. On December 16, the day the Pakistani general already surrendered to the Indian general, the *Times* reported that the U.S. 7th fleet—naval taskforce of eight ships—moved toward East Pakistan. The move finally faced an Indo-Soviet threat and did not proceed further.[10] These reports and editorials thus cued to the regional and global implications of the war, which the scholars call features of the prognostic frame.

Prognosis/Implications: Regional and Global

A *Times* editorial on November 21 (1971) criticized the United Nations and the U.S. for their failure in handling the Indo-Pak dispute. As the war escalated between India and Pakistan, another editorial said the war would create the third major nation in the subcontinent, Bangladesh, but it can set off chain reactions in populations of differing languages and religions that would reduce the subcontinent to Balkanized hodgepodge of quarreling and permanently impoverished states. Even after the end of war, a December 25 (1971) *Times*' editorial looked back at its anti-Pakistani stance and supported Indian stance of earlier occupation of some disputed areas including Kashmir. A *Times* survey revealed diplomatic and strategic gains by the Soviet Union and India, while the U.S., China, and the UN were the losers in the Indo-Pak War. A previous *Times* editorial voiced the same tone. The editorial also said the situation created fresh opportunities for Maoist extremism while the U.S. actions can only undermine faith in the U.S. support of free institutions elsewhere in the developing world. The *Times* also apprehended bleak future of Bangladesh.

Surprisingly, M. Browne (December 25, 1971) in an article said that the loss of E. Pakistan was a blessing for Pakistan. In his tone, the interrelationship of East and West Pakistan was like siamese twins, one of whom was always at death's door. The same day an editorial said the birth of Bangladesh leaves a legacy of blood and bitterness that may long plague new Bengali nation—overcrowded, under-endowed, and storm-plagued. This resembles the denting tone of the western media that forlorn the future of the Third World nations. In fact, the relationship among the religio-political groups of Bengalis and Biharis is still bickering in Bangladesh, no blame to the *Times*.

Reprisals

A late December report said thousands of Biharis and other non-Bengalis were crammed together in Mirpur on outskirts of Dhaka, surrounded by hostile Bengalis and cut-off from food, water, and electricity. Bengalis have ordered the International Red Cross (IRC) to cease its activities in Mirpur. The new Bengali regime told the IRC official that the matter of Biharis is internal, not the matter of the IRC. He said the situation of Biharis was very serious, because whoever went out for food got his/her throat slit (Sterba, December 18, 1971). Later, *Times* reported an outbreak of cholera among Biharis who were trapped by Bengalis. In this situation of retribution, China called on IRC to condemn Indian actions in Pakistan and asked for an impartial investigation of Indian army's massacring of Pakistanis.

James P. Sterba of *Times* (December 18, 1971) also reported unlawful execution of Pakistanis by Bengalis, while some people supported those actions. An earlier report also said many Biharis were killed in the port city of Chittagong by hostile Bengalis. In this respect, a Pakistani "white paper" (August 5, 1971 (August 5, 1971) charged that the separatists massacred 100,000 people in areas which came under their control. A letter writer on December 25 (1971) also mentioned about the killing of non-Bengalis "ruthlessly" and "properties of non-Bengalese burnt to ashes by the so-called freedom-loving Awami Leaguers [supporter of Mujib]." In fact, it might be hard for foreign journalists to find and ascertain how many supporters of Pakistani-unity were killed by the Bengalis because they were scattered all over E. Pakistan. The *Times*, in most cases, reported the Bengali casualties, easily available from the Bengali and Indian sources.

Diplomatic Duo and Misreading by Pakistani Leadership

The *Times* on December 31 (1971) published a report quoting Jack N. Anderson who earlier syndicated secret White House information on Pakistan-India war and proposed sales of American arms to Pakistan. Anderson claimed his source was the White House insider while the State Department denied leaking information to Anderson. This report followed a commentary by T. Wicker (December 16, 1971) that Henry Kissinger himself leaked secret information to the press. This confirmed assertion of scholars that the government itself hands out security information when that serves its political interest and the news media also collaborate with the government.

The study also revealed that the misreading by the "hotheaded" Pakistani leadership of the lips of its own people from East Pakistan and the leaders of the world, especially in the U.S., led Pakistan to a disastrous division, war, hatred, and hostilities which are still felt in the relations of Bangladesh and Pakistan, and their peoples. Right at the beginning of the conflict, a *Times*' letter writer (April 10, 1971) told that "If the leaders of West Pakistan were sincere in their pursuit of national unity they should have read the writing of the wall and accepted the demands of the majority party." Even if there was an exaggeration in the *Times'* texts of news and views those could have been considered as guidelines of direction, especially by the Pakistani leadership, for a peaceful solution to the conflict. Pakistan should have read the U.S. lips and understood its intention when its Ambassador to India, Kenneth B. Keating, said East Pakistan problem is a concern of the world community and not merely Pakistan's internal affair (Pace, April 10, 1971). This researcher thinks that remark of the U.S. diplomat who was a senator of the U.S was an important signal about the ultimate U.S. mood and move when Nixon was seriously considering not only considering to come out of Vietnam, but also making rapprochement both the Soviet Union and China for which the U.S. needed soothing India, while apparently using Pakistan.

CONCLUSIONS

This study has stepped out of the usual frames the scholars used for other wars and conflicts covered by the international news media. The research questions have three aspects—what were the prominent frames, were there any signs of political overtones and racially biased inputs in the news, views, and images, if so, with what effects? This textual analysis of the *Times'* contents revealed some unique circumstantial features, which cannot fit into usual frames that Dimitrova, & Stromback (2005) framed on the conflicts. Even then, some of the frames can be identified along the lines, primarily—economic disparities and clash of the cultures of two main ethnic populations—the Bengalis and other Pakistanis—in Pakistan (diagnostic), the humanitarian tragedy of millions (humanitarian), the Indo-Pak War (military), concerns about a U.S.-Soviet confrontation, internal pressure on the Nixon Administration in the backdrop of Cold War (prognostic).

The intra-national conflict of Pakistan intervened by India in the backdrop of refugee-influx into its territory and the Cold War politics as well as the *Times'* legal battle with the White House apparently prompted the *Times* to be inclined toward India, and eventually to be a backer of Bangladesh. Overtones of the *Times'* coverage came out through issues of cultural differences of the peoples/ethnicities of Pakistan, and its ideological and political (legal) confrontation with the Nixon Administration.

Many scholars carried out research on the coverage of the Bangladesh war by the international media, but there was no research in the area from the context of the textual analysis. Moreover, most research was blurred by the emotions and notions, because of blood-bath and deep hatred involved in the conflicts. This study, therefore, tried to open up ways of better understanding whether America's major newspaper—the *New York Times*—could come out of its ideological and political preference. The study found that *Times* and its people staunchly supported the causes of Bengalis (Bangladeshis). Even the U.S. Administration subtly distanced itself from Pakistan, though under internal pressure and external broader geo-political interests relative to coming out of the Cold War costs. This study is a major contribution to finding out some clues different from the popular views that the United States vehemently supported the unjust war of Pakistan on Bangladeshis. The *Times*, in the case of Bangladesh war, played a different role by apparently not siding with the "the interest of the country."

The limitation of available literature on the textual analysis of the Liberation War of Bangladesh has made the research more difficult than apprehension. The researcher did not compare the *Times'* coverage with any other newspaper from the U.S. (such as the *Washington Post*) or any other country. Moreover, the research had to rely on the news items and views of the *Times,* which were made available mainly by the Bangladesh Genocide Archive, which were very selective. The researcher, however, tried to find out some items from the microforms of the USM library. Besides microforms, the *New York Times Index 1971 on Pakistan* had many other items (such as economics, politics, international relations) in abridged forms, but could not be elaborately analyzed in this study (more studies can be done on some socio-economic and politico-cultural aspects that K. Singh (1971), N. Chowdhry 2017), and Q. Khan (2018) depicted on their articles and books). The future studies could include those issues to have a further understanding of the conflict as a whole.

This researcher hopes this study will broaden the senses and the ways of understanding the roles of the international print media, especially in the U.S., considered as the major external player, in the Bangladesh war. What the *Times* called the "long plague" of the Bengali nation, now Bangladesh, about 50 years ago, is still sadly running on the fault-line of the "distorted politics" (Bergman, December 13, 2018 & April 8, 2016). Q. M. Khan (2018) says, that distortion and controversy have long been plaguing the country since the birth of the country about almost all domestic and international issues that include especially its national identity and even selection of the National Anthem**.**[11] The title of Khan's book, *Bangladesh: Political and Literary Reflections on a Divided Country*, might give readers and scholars a reflection how divided is a nation called Bangladesh.

ENDNOTES

1. Q. M. Jalal Khan. "Bangladesh: Political and Literary Reflections on a Divided Country." New York: Peterlang (2018). Khan says, the total number of people killed in East Pakistan is not known with any degree of accuracy. Bangladeshi authorities claim that 3 million people were killed, while the Hamoodur Rahman Commission, an offcial Pakistan Government investigation, put the figure as low as 26,000 civilian casualties [...] A 2008 British Medical Journal study by Ziad Obermeyer, Christopher Murray, and Emmanuela Gakidou estimated that up to 269,000 civilians died as a result of the conflict. e authors note that this is far higher than a previous estimate of 58,000 from Uppsala University and the Peace Research Institute, Oslo. According to Serajur Rahman, the o cial Bangladeshi estimate of "3 lakhs" (300,000) was wrongly translated into English as 3 million (P. 169).
2. The *Times* prominently diagnosed the causes of conflict (diagnostic frame) problems along the socio-economic and cultural differences of the ethnic groups in Pakistan. Another prominent frame focused on the consequences (prognosis) leading to humanitarian sufferings as well as strengthening the Indo-Soviet alliance as opposed to the U.S.-Chinese apathy to the causes of Bangladesh. In this frame, the Times identified the Indo-Soviet alliance as strategic gainers and the U.S and China as losers. The cautionary languages exposed the tones, in some cases, overtones, of the Times as those languages emphasized the differences between the ethnic groups—by language, by economic disparities, by cruelties of the Pakistani army, and above all, a very strong tone was "no more bond of national unity by the religion of Islam." The Times writers termed the religious-bond as "cheap," and "abstraction." The issues which emerged beyond traditional coverage have given the researcher a better context of understanding the whole gamut of Bangladesh War and its regional and global implications.
3. On March 25 the Times simply reported Pakistan's central government reasserted control over East Pakistan and banned all political activities as army took control. A report, "Leaders of rebels in East Pakistan reported seized" was published later (The New York Times, March 25, 1971, 5:4. The New York Times, March 27, 1971, 1:7.
4. Times' editorial: "In the Name of Pakistan" (Mach 31, 1971. Articles "Appaling tragedy in East Pakistan" (April 1, 197), "A resistance fighter tells his story" (April 3, 1971, 1:1), another story (1971, 1:4).
5. Khushwant Singh. "Why They Fled." The New York Times, August 1, 1971, 13:14. Natasha Chowdhury (2017) in her research article "Case Study: Bangladesh Genocide 1971" states that the geographic distance between West and East Pakistan was mirrored by their economic and political separation, as the migration most of the ruling elite went westward from India (after independence from the U.K. in 1947) led to west Pakistan becoming the nation's (Pakistan's) political center. Between 1947 and 1970, East Pakistan received only 25% of the country's industrial investments and 30% 0f its imports, despite producing 59% of country's exports. Consequent of this unstable arrangement, the relationship between East and West

became ‘progressively more corrupt and neo-colonial in character’, and opposition to West Pakistani domination grew among the Bengali population. The Pakistani regimes failure to exercise its relief duties properly after the catastrophic floods in Bangladesh 1970 gave further impetus to the Bengali autonomy movement- Awami League, led by Sheikh Mujibur Rahman- to demand regional autonomy for East Pakistan and an end to military rule. Retrieved from https://www.ajk.elte.hu/file/BANGLADESH_GENOCIDE_1971.pdf

6. Theodore Shabad. Soviet Denounces Chinese Reds for Shift on Relations With U.S. The New York Times, April, 22, 1971, 12:1. Bernard Gwertzman. Kosygin Terms U.S. Aggressive. The New York Times, June 10, 1971, 3:6.
7. US Congress passed bill on arms embargo to Pakistan (The New York Times, May 7, 1971, 14:4), (June 12, 1971, 28:3). Times’ EDITORIAL: Abetting repression (The New York Times, June 23, 1971, 8:1).
8. “Pakistan Condemned.” The New York Times, April 9, 1971, 3:3. On July 13 (1971), Times published a report headlined “World Bank unit says Pakistan aid is pointless now.” Again, on July 14 (1971), Times published “Excerpts from World Bank group’s report on East Pakistan” (The New York Times, July 14, 1971, 11:1).
9. Kissinger went to Pakistan to tell it government no more arms aid (The New York Times, July 10, 1971, 6:1). More stories: (July 12, 1971, 13:5)., (October 5, 1971, 2:4), (November 4, 1971, 12:4), (November 8, 1971, 1:6), and (November 25, 1971, 1:6).
10. Full-scale war between India and Pakistan (New York Times, December 3, 1971, 11:1. Indian army entered E. Pakistan in October or before. The New York Times, November 7, 1971, IV 2:4. U.S. 7th fleet was proceeding toward Bay of Bengal, but stopped under Indo-Soviet threat (December 16, 1971, 1:4).
11. Q. M. Khan also claims, “It is said that Sheikh Mujib [national leader] himself did not like [National Anthem] “Amar Sonar Bangla” and that he [Mujib] expressed his frustration and disappointment about it.”

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Work, Non-Work Boundaries and the Right to Disconnect

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Work-life conflict involves the competing demands of work and nonwork activities that often trigger feelings of stress and anxiety that can endanger individuals' professional and personal lives. As a result, organizations and nations have been encouraged to create more employee-friendly job arrangements in terms of where, when, and how individuals work. Providing employees greater choice and flexible work boundaries, however, often turns into work without boundaries creating problematic consequences for both firms and workers. This "always on" culture has been made possible by several factors most importantly by enhanced communication technology involving connectivity and immediacy that enable employees to communicate anytime and from anywhere. While organizations are addressing this imbalance and attempting to mitigate the often-negative effects of such professional-personal conflict, politicians have initiated legislation that attempts to switch off the 24-7-365 availability mindset by considering and sometimes adopting "right to disconnect laws."

INTRODUCTION

> "Employees physically leave the office, but they do not leave their work. They remain attached by a kind of electronic leash—like a dog. The texts, the messages, the emails—they colonize the life of the individual to the point where he or she eventually breaks down." —Benoit Hamon of the French National Assembly (2016)

The typical professional and technical employee until late in the 1900s came to their office and worked Monday through Friday and did their job in blocks of eight- or nine-hours. Both the workplace and the work hours were unambiguously identified. Nowadays, there is increasingly an independence of work from place and jobs are being done not only at home but also in transit and on vacation in many organizations. The workplace is no longer contained within the four walls but wherever individuals take their smartphone, pager, laptop, or smartwatch, and where they can continue to work beyond the traditional workday. The idea that employees must operate within a traditional model of fixed 9 to 5 working hours and physical offices has become obsolete.

This has occurred as firms attempt to satisfy employee appeals for greater choice and flexibility and customer demands for immediate service. This has created a "double-edged sword" (Marcum, Cameron, & Versweyveld, 2018, p. 75) when it comes to work-life balance. While providing for more flexibility, the use of digital communication devices means that employees are increasingly incapable of escaping work (Challenger, Gray, & Christmas, Inc., 2017). Employers electronically contact their employees through text message, chat, or email, “after work” (after work depends on when the employer expects an employee to be available but does not refer to any specific time period) to attend to some task, duty, project, or assignment. For example, in a survey of 150 managers Challenger et al. (2017) found 82.9 percent of supervisors said they would reach out to their employees after hours, with 28.6 percent of those respondents expecting a response within a few hours. Most of the contact after hours is digital, with nearly 80 percent of managers stating they would use email or text message. Forty-two percent would call their subordinates, while nearly 25 percent would use social media or chat software to contact their employees. In fact, the *mere expectation* of availability increases strain for workers and their families—even when personnel do not engage in *actual work* during nonwork time (Becker, Belkin, & Tuskey, 2018). According to Becker (2018), “Such expectations—whether real or imagined—cause more problems, including burnout and work-life balance problems, than the actual time it takes to read and respond to after hours’ emails.”

Amazon has become the prototype for a work culture which encourages endless work. Employees of the firm are regularly encouraged to “toil long and late” and the company boasts of its unreasonably high standards and claims that creating a high intensity work environment is what has brought them so much success (Kantor & Streitfield, 2105). Such a work culture appears to be validated by former Amazon employee, Nichole Gracely (2104), who authored “Being homeless is better than working for Amazon.”

Such workplace dynamics, however, can cause problems for employees and employers, and this has led increased concerns about the safety and health of employees who work too many hours. Studies consistently show that tired, stressed-out employees get injured, sick, and miss work at high rates (Belkin, Becker, & Conroy, 2016) and employers notice a lack of productivity from overworked employees because additional work at some point does not equal better work (Secunda, 2018). Exposure to constant workplace needs, or even the anticipation of such demands is detrimental to employee health (Semmer, 2007). These employees also experience high levels of professional and personal life conflict.

DISCUSSION

Work-Family Conflict

Work-family conflict variously known as work-life (im)balance, work interference with family, work-life fit, work-life integration, work-life interface, and work-to-family spillover is “a form of inter-role conflict in which the role pressures from the work and family domains are mutually incompatible in some respect” (Greenhaus & Beutell, 1985, p. 77). Such terms suggest that fulfilling work demands of employees’ current role interfere with their personal life (and vice versa) making it difficult to satisfy expectations for both domains. Moreover, this work-life (im)balance seems to be particularly important to college students (Lowe & Gayle, 2007), and millennials (individuals born between 1982 and 2004; Strauss & Howe, 1991), the group that companies indicate they are focused on attracting and retaining, and who are most dissatisfied and frustrated about work-family (im)balance (Fondas. 2015; Kirby & Krone, 2002; Marcum et al., 2018).

The issue of work-life balance has received extensive publicity during the past two decades as the number of women with children and the number of people caring for aging relatives have both increased in the workforce. This demographic change has, in turn, increased the demand for organizations to adopt work-life balance programs, such as on-site daycare centers, elder care programs, employee assistance programs, paternity leave, telecommuting, and flex time (Burke, 2006). Employers’ responses to this increasing conflict, however, have varied widely and some employers have adopted work-life balance programs and many others have not.

In response to this lack of commitment to work-family balance, politicians, urged by their constituents, are increasingly calling for firms to provide employees the “right to disconnect.” We address this issue by first noting factors that cloud the lines between work and home, then discuss negatives associated with such blurring. Next, we briefly review steps various organizations are doing to address this issue, then examine what politicians in some countries are considering and, in some cases, doing, to address this topic in terms of right to disconnect laws. Finally, we present concerns about right to disconnect laws and conclude with a summary.

Factors Obscuring Work and Home Life Boundaries

Difficulties in balancing work and home demands are commonplace in modern societies and may be one of the greatest challenges' individuals face in contemporary society (Halpern, 2004; Kossek & Lambert, 2005). Several factors have contributed to the blurring of lines between employees' work life and personal life (e.g., Castells, 2007; Mazmanian, Orlikowski, & Yates, 2013). First, the creation of global organizations causes their world to never sleep. At any time and on any day workers from many multinational firms are working and the need to consult with or communicate with coworkers or customers 10- or 15-time zones away which means that many employees of such firms are "on-call" 24 hours a day.

Second, organizations in some countries are asking employees to put in longer hours. For instance, in the United States 85.8 percent of males and 66.5 percent of females work more than 40 hours per week (Miller, 2018). Van Giezen, (2013) reported that 77% of U.S. workers get paid vacation, yet only 51% of paid vacation days are used and 61% of those who do take vacation are working while on vacation. Moreover, trends such as road rage, workplace shootings, the rising number of children in day care, and increasing demands for after-school activities to occupy children whose parents are too busy or still at work also suggest that people are working long hours (Barnett, 2006; Schabner, 2018). Japan and South Korea, countries having a reputation for brutal work hours, expect their employees to put in long hours at their jobs. Also, according to United Nations' Organisation for Economic Co-operation and Development (OCED), Mexicans work the most hours out of any country every year—2,246 on average (McCarthy, 2018).

Third, demographic changes resulting in the number of women with children and the number of people caring for aging relatives have both increased in the workforce (Wang, & Verma, 2012). Furthermore, fewer families have only a single working adult. Today's married employee is typically part of a dual-career couple, often with children at home. In 1960, only 20 percent of mothers worked. Today, 70 percent of American children live in households where all adults are employed. This makes it increasingly difficult for married employees to find the time to fulfill commitments, to home, spouse, children, parents, and friends (United States Department of Labor, Bureau of Labor Statistics, 2017). These factors are not only leading to erasing the distinctions between an individual's job and home but are also causing problems for employees and organizations as discussed in greater detail below.

Fourth, an ideal employee schema (Acker, 1990; Albiston, 2010; Williams, 2000)—which portrays a worker as serious, committed, promotable, and willing to work full-time (and longer), all-year, on a schedule determined by the employer, with no significant breaks in employment, and available for work outside the factory or office (Blair-Loy, 2003; Moen & Roehling, 2005; Williams, 2000)—produces more fluid work-family boundaries (Chesley, Moen, & Shore, 2003; Galinsky, Kim, & Bond, 2001). For many employees who want to impress their supervisors and rise in the corporate ranks, being connected at all hours is an implicit expectation (Burns, 2016). Their connectivity is hence self-created.

Fifth, and perhaps most importantly, work-family difficulties have been impacted by enhanced communication technology involving connectivity and immediacy such as emails, smartphones (portable tools that combine a mobile phone with a collection of software applications, which were traditionally accessed via computers; Wei, 2008), social networking websites, video conferencing, the Internet, instant messaging, virtual teams, and cloud-based applications that can be accessed anytime, from anywhere. This technology, especially the mobile phone which is typically always with its user and is rarely separated from its owner, and is in use, or ready for use, all the time (Derks, van Duin, Tims, & Bakker, 2015), has enabled employees to stay connected to their job in increasingly global and geographically dispersed operations (Kossek & Lautsch, 2008; Kreiner, Hollensbe, & Sheep, 2009), has created a 24-7-365 economy where workers are expected to be "always on" (Deal, 2015; Sadeghniiat-Haghighi & Yazdi, 2015). Moreover, the universal expectation that everyone be available by smartphone or laptop to respond to any minor query immediately has contributed to this "on call 24/7" culture that puts people on a permanent state of reactive alert sometimes resulting in individuals "*Sleeping with Your [Their] Smartphone*" (Perlow, 2012).

A final factor contributing to the permeability of the boundaries between work and leisure is that technology advancements and the dramatic increase in the use of technology during the last several years may have an addictive character (Sultan, 2014; Vaghefi, Lapointe, & Boudreau-Pinsonneault, 2017), especially smartphones (De-Sola Gutiérrez, Rodríguez de Fonseca, & Rubio, 2016), that can create difficulties for users (Chóliz, 2010). Some have argued that smartphones are addictive by design. Tristan Harris, a former product philosopher at Google, calls smartphones the "Slot Machine in Your Pocket" (2016).

Like substance addiction, excessive and compulsive use of technology has been shown to be linked with risky behaviors such as ignoring important professional and personal life duties. Also, recent neurobiological findings have revealed that there are similar neural mechanisms associated with substance and technology-related types of addictions (Turel, He, Xue, Xiao, & Bechara, 2014) and removing connections can result in anxiety and other negative effect consistent with an addict going through withdrawal. Indeed, a high level of importance on remaining connected to their organizations can induce behaviors that demonstrate a virtual obsession with constantly checking for new work-affiliated communications (Marulanda-Carter & Jackson, 2012; Turel, Serenko, & Bontis, 2011). For example, a study conducted by Matusik and Mickel (2011) found that several employees felt such a strong urge to remain connected that they readily admitted to reading their work-related emails while in the bathroom, and Jackson, Dawson, and Wilson (2003) found that 70% of the employees opened applications to read messages within six seconds, and 85% within two minutes of receipt. It appears that some individuals do not know when to "turn off" work.

These factors contribute to permeable boundaries between an employee's job and their personal time. This situation triggers problematic scenarios discussed below.

Negative Effects for Individuals and Organizations of Work-Home Conflict

Although the insidious impact of an "always on" organizational culture is often masked as a benefit—increased convenience or higher autonomy and control over work-life boundaries—the reality seems to be that flexible work-life boundaries often compromise employees' and their family's well-being. The above factors increase the risk of an imbalance between work and family life (Higgins & Duxbury, 2005) and is one of the major causes of work-home interference (Higgins & Duxbury, 1992) in such a way that participation in the work role conflicts with participation in the home role (Greenhaus & Beutell, 1985; Van Hooff, Geurts, Kompier, & Taris, 2007).

A round-the-clock or nonstop service environment has produced a condition where more and more people are feeling the impact of technologies' demands on their time and energy (Wickwire, Geiger-Brown, Scharf, & Drake, 2017), where the separation between work and nonwork domains is obscured (Derks et al., 2015), and where the boundaries between work and family life become permeable (e.g., Green, 2002; Jarvenpaa & Lang, 2005). This can lead to work-life conflict characterized by tension associated with incompatible expectations and challenges from both work and home domains (Kreiner et al., 2009).

An imbalance of the "work" and "lifestyle" spheres can lead to negative outcomes for individuals, which include a poorer quality of life and decreased life satisfaction (Allen, Herst, Bruck, & Sutton, 2000; Greenhaus, Collins, & Shaw, 2003; Kofodimos 1993), psychological strain, depression, anxiety, and alcohol abuse (Allen et al., 2000). Work-life conflicts are also associated with related increased stress in marriage, in child-parent relationship difficulties, and in child development problems (Gornick & Meyers 2003). The work-life conflict is also important for employers, as it can have negative repercussions for the well-being and performance of employees in their work place (Alpert & Culbertson 1987; Burke 1988; Frone, Russell, & Barnes, 1996; Googins 1991). Furthermore, a work-life imbalance can lead to a lack of the time necessary to meet obligations at home and at work, which can in turn lead to stress and anxiety at home that then affects performance at work (Greenhaus & Beutell 1985; Kopelman, Greenhaus, & Connolly, 1983). Finally, when the demands of work hamper the pursuit of other life interests, it is likely to create tensions and strains among employees. Work interferes with family life and vice versa (Aldous, 1969; Crouter, 1984; Piotrkowski, 1979). Emotional stress is a major contributing factor to the six leading causes of death in the United States: cancer, coronary heart disease, accidental injuries, respiratory disorders, cirrhosis of the liver and suicide (Mohd, 2008). Moreover, there are few things that stress individuals out on a consistent basis like work does, especially when it takes away from all the other things that life offers.

The “always-on” work culture also creates numerous problems for organizations stemming primarily from the fact that it denies workers a sense of individual efficacy and autonomy by putting them on a permanent state of reactive alert. It drains morale and initiative, and scatters employees’ mental resources, making it difficult for them to take ownership of projects and prioritize their efforts. Additionally, research on working long hours is associated with productivity decreases for firms (Golden, 2012). For example, Nishiyama and Fujikawa (2017) noted that Japan’s legendary long work hours has not helped their economy much. Japan barely grew for most of the past quarter-century, and the average worker is only two-thirds as productive as the average American, a gap that has stayed persistently wide. From another perspective, consider also Germany’s relatively short work hours. German employees count on four weeks of vacation a year and enjoy some of the shortest work weeks known to Europe. In the manufacturing sector, it is standard to work only 35 hours each week. Despite fewer work hours German productivity is the industrial powerhouse of Europe and a leading manufacturer of goods for export to developing Asian nations (Sarva, 2017). Perhaps less is more.

Organizations Respond to Work-Life Conflict

A main conclusion of two decades of research in the work-life conflict area is that most employees have a problem balancing work and family demands. In response, people are expressing the need for an improved sense of work-family fit and it has become central to maintaining a diverse and inclusive workplace. Employees are increasingly recognizing that work is squeezing out personal lives, and they are not pleased about it. For example, recent studies suggest that workers want jobs that give them flexibility often understood as involving employees’ control over the timing of their work, the number of hours they work, and the location of their work (Kelly, Moen, & Tranby, 2011; Schieman, Milkie, & Glavin, 2009) in their work schedules so they can better manage work-life interference. In addition, the next generation of employees is likely to show similar concerns.

Organizations are responding by helping their employees maintain a healthy professional-personal balance and have crafted policies and practices to address the changing needs and demands of employees and help them achieve better work-life balance (Donovan, 2016). Such interventions are typically defined as family-friendly policies or work-life benefits and programs (WLBPs) that make it easier for individuals to manage the often-clashing worlds of work and family lives (Osterman, 1995). WLBPs, also known as human resource initiatives, can be organized into three major categories, policies, benefits and services (Baral1 & Bhargava, 2011). Policies cover the formal and informal ways by which employees’ work and leave schedules are handled, including part-time work, and parental/family leave. Benefits address different forms of compensation that protect against loss of earnings, payment of medical expenses and sponsored vacation. Services include on-site or near-site childcare centers, medical facilities and counseling. WLBPs also include government mandated statutory policies such as maternity leave and benefits as well as discretionary firm policies and benefits such as flextime, telecommuting and employee assistance programs such as stress management programs (Ingram & Simons, 1995; Osterman, 1995; Perry-Smith & Blum, 2000; Zedeck & Mosier, 1990).

Some organizations are finding human resource advantages to relaxing normative expectations concerning working over-time. For example, in Germany, employers are taking steps to cut their employees’ technological “leashes.” At the behest of labor council-enforced decisions to put a ban on the work-related use of communicative devices after working hours at both Volkswagen and BMW, Öchsner (2016) observed that somewhere in early 2012 (Volkswagen) and 2014 (BMW) onward, all mail that reaches these company’s server after office hours is put on hold or deleted, and company phones go off-service from the end of day, until the beginning of the next. Likewise, workers at Daimler can set their email software to automatically delete incoming emails while they are on vacation (already forbidden under German law), a move that has affected around 100,000 employees. When an email is sent, the program, which is called "Mail on Holiday," issues a reply to the sender that the person is out of the office and that the email will be deleted, while also offering the contact information of another employee for pressing matters (BBC News, 2014).

In America, accounting and consulting firm Deloitte and Touche significantly improved its 33% turnover rate for women when it revised its implicit requirement that members work 80-hour work weeks (Babcock & Laschever, 2003). Similarly, Perlow (2012) recounts an intervention with Boston Consulting Group, an elite professional services firm, where people are "always on" if the client calls because the client pays large sums of money for its services. She attempted in a very small way to switch off the always-on culture by giving each worker one night per week off the grid after 6 p.m. It also took regular reviews and reminders to convince workers to truly take that little bit of time off. But once they changed this small part of the company culture, the employees and the organization noticed significant ripple effects in the form of smarter collaborative approaches to solving all kinds of problems that everyone had formerly ignored. Workers felt more energized and engaged, and retention rates increased significantly. And at Philadelphia-based healthcare management consulting firm, Vynamic, the company encourages a healthy public and private lives by prohibiting emails after 10 p.m. and on weekends (Kress, 2016).

Although employers often define work-family integration as a parenting or dependent care issue, over time, many firms are broadening the policies and practices to support employees' participation in many life roles and even personal developments. There is a growing recognition of the need to support not only those with visible family needs and responsibilities (e.g., working mothers having child care responsibilities), but all employees at many life stages who may experience work-life stresses regardless of their family status. Earlier, adoption of WLBPs has largely been viewed as practical response to the increasing proportion of women employees in the workforce, employees with caring responsibilities, and the problems such as absenteeism, turnover associated with that (Lambert, 2000). However, in recent years, embracing such programs and policies are being considered as a part of high commitment work systems (Osterman, 1995) required for ensuring high levels of employee commitment and innovation. WLBPs are increasingly being considered as strategic, innovative, crucial, and progressive (Lambert, 2000; Perry-Smith & Blum, 2000; Tenbrunsel, Brett, Maoz, Stroh, & Reilly, 1995).

Such corporate self-regulatory approaches to controlling work hours because of advancements in digital communication technology allows employees to engage in discussions with the relevant partners to develop unique rules that are tailored to the needs of each party. It also encourages employers to develop regulations that serve their industrial needs. Such regulation by employers may be better than passing rigid legislation, which pushes lawmakers to balance between legislating regulations which are simplistic to apply with clarity and leave or developing comprehensive rules which apply in every conceivable situation but risk becoming too difficult to apply or enforce.

The risk, however, with self-regulation is that employers will create rules which seem to favor employees on the surface, but in fact fail to provide substantive protections (Legace, 2007). The incentive for employers to develop such surface-level regulation is high, because they reap the benefits of increased public relations and recruitment of better employee. Moreover, nothing requires employers to engage in corporate self-regulation. While there are a few prominent examples of employers who have been proactive as indicated above, there has not been a significant shift in after hour communication with employees on a large-scale and most companies do not have after hours' communications policies and are not even contemplating implementing one (Challenger et al., 2017). Therefore, governments at various levels are acting.

Governments Respond to Work-Life Conflict

While some organizations and firms have introduced policies and practices that attempt to provide a more balanced approach to work and nonwork activities, politicians and governments around the world have begun exploring, and in some cases passing, statutes and regulations allowing employees the freedom to not have to engage with job activities outside of official work hours. Indeed, some say that the right to disconnect from work and primarily not to engage in work-related electronic communications such as emails or messages during non-work hours is a human right (Singh, 2018) and consistent with the definition of a human right by The Equality and Human Rights Commission: “basic rights and freedoms that belong to every person in the world….” (The Equality and Human Rights Commission, 2018). Giving employees the right to disconnect legislatively seems to be a part of new a movement.

Such laws help to establish concrete boundaries between work expectations and family needs by setting up off-hour electronic communication windows or schedules when employees are available to respond. These laws often require employers to adopt an after hours’ cessation policy and claim that workers should have the ability to disengage from work and not participate in work-related communication and information technologies and other digital tools during non-work hours (Schofield, 2016; Staufenberg, 2016). Right to disconnect regulations seem to be gaining popularity in numerous countries since France implemented such a rule in 2017. A short review after work electronic communication practices in several countries is now offered.

France. France has been the most proactive country in establishing legal frameworks protecting a worker’s right to disconnect. In 2001 the idea was considered when the French Supreme Court ruled that employees are under no obligation to bring work home, and as technology progressed the Court continued to update its ruling. In 2004 the Supreme Court held that it was not misconduct if an employee was not reachable on a smartphone outside of work hours (Labor Chamber of the Cour de Cassation, 2004).

The right to disconnect was implemented January 1, 2017 with France establishing what is known as the pioneering El Khomri Law, after French Labor Secretary Myriam El Khomri (Code du Travail, 2016). According to these provisions, which only concern companies employing more than fifty employees, an annual negotiation meeting must be held between the employer and the employees’ representatives to discuss:

> Modalities by which employees exercise their rights to disconnect, and the setting up of company regulations on digital devices and tools, will be completed with a view to ensuring respect for rest, personal life, and family leave periods. In the absence of agreement, the employer shall draw up a charter, after advice from the enterprise committee, or alternatively, from the staff delegates. The charter will define the modalities by which employees may exercise the right to disconnect and provide for the implementation of training and awareness tools for the benefit of employees, management, and management personnel (Code Du Travail Art.55).

In the absence of such agreement between the staff representatives and the employer, the latter should draw up a charter defining the “modalities for the exercise of the right to disconnect.” This charter also specifies governing rules to ensure “a reasonable use of digital tools.” The intention of the French legislation is to give to both employers and employees’ representatives some flexibility, considering the disparities that may affect employees using digital tools. It was borne of the idea that it is beneficial for people not to work all the time, and that workers have the right to draw the line when their employer’s demands intrude on evenings at home or time with friends and family (Alissa, 2017).

This law is reasonably vague and does not restrict after hours work communication, but rather obliges organizations to negotiate these terms clearly with prospective employees. While the new law imposes an obligation for large companies to negotiate there is no obligation to reach an agreement, therefore if no agreement is reached between company and employees the right cannot be applied and enforced. Likewise, there are no fines for companies who flout the new rules. Nevertheless, the French subsidiary of British pest control and hygiene giant Rentokil Initial has been ordered to pay a former employee €60,000 because it failed to respect his “right to disconnect” from his phone and computer outside office hours (Samuel, 2018). The ruling is believed to be the first of its kind. In its decision dated July 12, 2018, France’s Court de Cassation, its Supreme Court, found it unfair that the former South West regional director of the company in France, to have to permanently leave his telephone on and to respond to requests from his subordinates or customers in case of any problems while not at work. Rentokil did not consider the employee to be officially on call and so did not compensate him for this work. But the court ruled that the employee was indeed on call because his contact details were listed explicitly as someone to be contacted in an emergency and that he should be paid for his time. Overall, the French *droit à la déconnexion* regulation is now legally enshrined and appears to be laying the groundwork for other countries to consider (Secunda, 2018), including America.

USA. Often, European ideas do make their way into the United States, so the right to disconnect could become an issue in the United States. Consistent with this perspective, a recent bill drafted by New York City councilpersons has been introduced. It is the country's first local regulation proposing to make it illegal for employers to require employees be email contactable outside of normal work hours (Espinal, Ampry-Samuel, Ayala, Maisel, & Constantinides, 2018). The legislation is much more restrictive than its European counterpart, essentially making it a flat rule that employees cannot be forced into electronic communication contact outside of paid work hours.

There are some exemptions in the bill, like one for small employers (less than 10) and another for emergencies. But, generally, it forbids employers from taking adverse employment actions against workers who do not reply to work-related texts and emails outside of their normal workday. Moreover, employers will be required to adopt a written policy regarding the use by employees of electronic devices for work-related purposes during non-work hours. The bill proposes a number of penalties for employers who fail to comply with its provisions, including: (i) a $50 fine for each employee who does not receive proper notice of their right to disconnect; (ii) a $250 fine for each instance of requiring an employee to check electronic communications after work hours; and (iii) fines ranging between $500 and $2,500 for retaliating against employees for asserting their rights under the bill (Kirby, 2018). The regulation has yet to be passed but is still under consideration by the city council.

Canada. The federal government, as part of an eventual new labor code is now exploring a law that gives workers a "right to disconnect": in other words, doing uncompensated work while commuting or at home (Montgomery, 2018). The federal government recently completed a ten-month consultation of working conditions in Canada (Employment and Social Development Canada, 2018) and one of the issues surfaced was how many people are obliged, or feel obliged to work additional hours electronically, through phones or computers. Interestingly, 93% of respondents stated that employees should have the right to refuse to respond to work-related communication outside of working hours. The right to disconnect was part of a year-long consultation process involving issues of work-life balance, along with other subjects such as minimum-wage guidelines, and a variety of issues regarding precarious work such as contract flipping. The Canadian law being considered would primarily affect federal employees in such industries as transport, banking, and telecommunications although in time it could extend to provincial workers and then possibly the private sector.

The federal Liberals are pushing for a closer examination of the issue and currently there is a split between labor and employers over whether further consideration of such a measure should be advanced (Press, 2018). Quebec Solidaire's Gabriel Nadeau-Dubois also tabled a private member's bill (otherwise known as the "Right-to-Disconnect Act") in the Quebec national assembly in March 2018 that aims to "ensure that employee rest periods are respected by requiring employers to adopt an after-hour's disconnection policy." The proposal calls for fines between $1,000 to $30,000 for companies that refuse to draft a proper policy or reassess it annually to ensure it remains up to date and effective. Should it pass in the future, Québec would become the first Canadian province to enact legislation largely inspired by the French law. The bill also includes penalties, such as fines, for employers who fail to comply (O'Dell, 2018). And some say that a Canadian right to disconnect regulation could come in a 2019 labor code update at the federal level (Huffington Post Canada, 2018).

Italy. Italy in 2017 incorporated a similar France's right to disconnect law which also requires contractual clarity over an employee's responsibility to communicate outside of general work hours. This "smart working" legislation was designed to protect self-employed workers and autonomous and flexible work arrangement employees (Figueora, 2017). Smart-working is work characterized using technological tools which allow work to be performed partly within, and partly outside, the company premises, without a fixed location, subject only to the sole restriction of a maximum number of daily and weekly working hours. Smart-workers have a right to disconnect from their technological equipment at the end of their working day. The technical and organizational measures to ensure the right of disconnect must be set out in the agreement (signed between the employer and the worker) defining the terms on which the smart-working must be performed (Piper, 2017). The bill has yet to be acted upon.

Philippines. Labor Secretary Silvestre Bello III noted in 2017 that "the 'right to disconnect,' or letting employees disregard work-related communications after office hours without disciplinary action is, technically, a voluntary engagement between employers and their employees…. Answering or ignoring texts, emails from employers after working hours is a voluntary engagement of an employee, and they are not obliged to respond or not. The right to disconnect is a choice of an employee" (De Vega, 2017). Quezon City Representative Winston Castelo authored House Bill 4721, which aims to amend the Labor Code of the Philippines. The bill obliges employers "to establish the hours when employees are not supposed to send or answer work-related e-mails, texts, or calls," and the conditions and exemptions in line with it, subject to rules provided by the Department of Labor and Employment (De Vega, 2017).

Belgium. In December 2017, the Federal Minister of Work issued a proposal to oblige companies to make agreements with their employees on how they should manage emails that are received after working hours or during the weekend (Perquy, 2018). The proposal is merely an obligation to have an agreement between the employer and its employees. The agreements should respect that there are certain hours or time blocks in which employees should not be disturbed during their leisure time. The proposal has been discussed and adopted in the federal parliament in April 2018. It is yet to be seen how it will be implemented in practice. Interestingly, the company Lidl is already setting an example in Belgium by ensuring that emails being sent after 6 p.m., will only be received in the employees' mailboxes at 7:00 a.m. the next morning, ensuring that employees do not check their inbox after work.

Luxembourg. In this nation the employee of a company of at least fifteen workers may discuss with the personnel representative in charge of safety and health and mention his or her concern about after hours work communication. In smaller companies, the employee could remind his/her employer about the firm's obligation to ensure the safety and health of employees in all aspects related to work to try to find a solution. So far, no Luxembourg jurisdiction has addressed this issue, but a Luxembourg trade union recently sent a letter to the Minister of Labor to implement a concrete "right to disconnect" in the Luxembourg Labor Code (Martin-avocats, 2018).

The Netherlands. In the Netherlands, the Dutch Labor Party wanted to add the right to disconnect into Dutch law. However, they are not part of the new coalition government, formed after elections in 2017. The party wants to give employees the right to be "unreachable" after a long day of work, for them to have quality time with their family and friends. Their plan was to compel employers with more than 50 workers to reach an agreement with trade unions and work councils about the right to disconnect. It would be very similar to the French model. It is not clear what, if anything, will be adopted in the future (Perquy, 2018).

South Korea. Over the last decade South Korea has increasingly addressed work-life balance (BBC, 2016). In 2010 officials at the South Korean Ministry of Health introduced a monthly Family Day, where the office lights were switched off at 7 p.m. to encourage staff to either spend more time with their families or procreate, in a bid to tackle the country's low birth rate. Additionally, organizations were encouraged to stop asking their staff to put in writing why their workers wanted to take annual leave. The Seoul Metropolitan Government has announced an ordinance recommending its supervisors not to give orders to subordinates via mobile messenger apps after work hours (Kim, 2017).

In 2016 hyper-wired South Korea (more than 80 per cent of South Koreans have smartphones—one of the highest percentages in the world) considered legislation that would restrict employers from contacting workers at home (CTV News, 2016). Cyberstress from round-the-clock orders from supervisors has become a growing social issue in South Korea, a country plagued by a mix of its notorious workaholic culture and advanced digital technology. The bill seeks to ban firms from sending employees work-related messages by telephone, text, social media or via mobile messaging apps after official working hours. Currently, the bill has been tabled but advocates are hopeful that it will be revisited soon.

Ireland. Although there is nothing on the Irish parliament's agenda similar to a right to disconnect law, Connolly (2017) sees the Irish Organisation of Working Time Act of 1997 (the "Act"; Organisation of Working Time Act, 1997) as providing a similar duty requiring employers to ensure workers take time away from the office and to ensure employees are afforded sufficient time for rest and relaxation. During these periods' employees should not be required to work, answer emails or participate on business-related calls. Interestingly, a business executive employed at a subsidiary of meat producer Kepak Convenience Foods Unlimited Company was awarded €7,500 by the Labour Court in 2018 after she successfully argued she was required to deal with out-of-hours work emails, some of which were after midnight and in excess of the 48 hours a week set out in the Act (McCulloch, 2018). In support of her complaint, the executive submitted copies of emails that she sent to, and/or received from, her employers both before normal start time and after normal finish time on numerous occasions over the course of her employment. The Act, it seems is being used to address current technology and incorporate language more in line with other nation's right to disconnect regulations.

Other governments. Other nations, while not actively pursuing right to disconnect legislation, have expressed concern with work-life balance issues and may consider employee right to disconnect options in the future. Consider the following:

Germany. Responding to the need for greater work-life balance, in 2013 the German labor ministry banned its managers from responding to emails after hours (absent an emergency). This policy was implemented to prevent job burnout and protect the mental health of employees (News 18, 2014). The guidelines state that ministry staff should not be penalized for switching off their mobiles or failing to pick up messages out of hours. Conscious of the risks for private life and professional burn-out, the national works councils were willing to agree with their employees on rules for the right to disconnect. In 2014 German Labor Minister Andrea Nahles called for an "anti-stress regulation" compelling companies to reduce stress in the workplace. It would also ban employers from contacting employees after hours, just as it is already forbidden to contact employees on vacation under German law (Nelson, 2014). Despite such initiatives, there is no regulation on the right to disconnect and Chancellor Angela Merkel has opposed such a law and appears to support a model in which German businesses are self-regulating and leading the way regarding enforced work-life regulation.

Japan. Japan's work culture is so intense, people in the 1970s invented a word, *karoshi*, that translates to "death by overwork," and involves employees committing suicide or suffering from heart failure and stroke because of long work hours (McCurry, 2017). Government statistics show that legal cases filed over *karoshi* soared to 1,456 in a12-month period that ended in March 2015. In comparison, a total of 1,576 cases were filed between 2004 and 2008. Because of such findings the government has more recently attempted to address this issue. Legislation went into effect in November 2014 that requires the national government to carry out measures to prevent suicides and deaths form overwork, although the rules are hampered by a lack of penalties for companies that fail to comply (Ryall, 2015). More recently, Tokyo's governor has ordered municipal employees to finish work by 8 p.m. and anyone still at their desks will be subjected to "strict monitoring" by overtime prevention teams. The move follows the suicide in December 2015 of a 25-year-old woman who worked 105 overtime hours over the course of a month. The employee was working at Dentsu, Japan's biggest advertising agency, which has since barred workers from logging more than 65 hours of overtime a month (down from 70). These incidents suggest that Japan may be predisposed to introduce right to disconnect regulations.

Spain. The Spanish government is considering moving the country's clocks back by one hour to bring Spain's working day, which can typically run from 9 a.m. until 8 p.m., into line with the rest of Europe. Few Spaniards now enjoy a siesta—which once characterized the long working day—as many live too far away from where they work to go home in the afternoon. Last month, Spain's employment minister Fátima Báñez announced a push to let Spaniards knock off at 6 p.m., rather than 8 p.m. "We want our workdays to finish at six o'clock and to achieve this we will work towards striking a deal with representatives from both companies and trade unions," she told parliament (Jones, 2016). Like Japan, Spain seems ripe for implementing statutes addressing after hours' legislation.

Overall, these examples clearly show that the world views the new "electronic leash" advanced by technological communication developments as a cultural pandemic. Finding a solution to the "always connected culture" will be critical for the health and happiness of employees. Additionally, there are significant organizational benefits that also could result from workers being able to disconnect. Hall (2017) noted that over the last decade, what has evolved in many countries is a culture of "busy." Busy often entails doing what can be easily tackled—the small things rather than thinking long term, strategizing, planning, and responding to truly important issues involving creativity. This is important since creativity research tells us that big ideas need incubation, time during which they can evolve (Ritter & Dijksterhuis, 2014). So, while disconnecting may be good for employees—it may likewise provide some remarkable benefits in terms of inventiveness and ingenuity to firms as well. Moreover, well rested and satisfied employees are also productive employees who may be more motivated and willing to invest greater effort to advance their firm's long-term interests.

Concerns about Legislating the Culture of Connectivity

Almost daily news reports indicate that today people in many nations are working longer hours, inseparably connected to their mobile devices, stressed, burned out, overworked, and experiencing increased levels of work-family conflict. Thus, there appears to be an increased awareness of the dangers of workplace technology. But the simplicity of some of these solutions—such as the absolute bans on after hours' email—do not do justice to the complexity of the problem. Where to strike the balance between work and life is an intensely personal decision that varies from one worker to the next. For some, technology can be a "leash." For others, it can be an important source of flexibility. Requiring all workers to "disconnect" in the same way could harm those who thrive the most in the digital workplace. For many, the option to work after hours has created much-needed flexibility *during* working hours. Recent research summarized by the Eurofound and the International Labour Office (2017) found that those who often work after hours are more likely to feel comfortable taking time off during the regular workday to handle personal or family matters. Also, it should be noted that there are times when disconnecting from work can cause stress, anxiety, and worry over unfinished business and the fear of missing out (FOMO). FOMO is "a pervasive apprehension that others might be having rewarding experiences from which one is absent … and is characterized by a desire to stay continually connected with what others are doing" (Przybylski, Murayama, DeHaan, & Gladwell, 2013, p. 1841). Against this background, measures that require workers to "disconnect" can be overly restrictive if they assume—as many of them do—a fixed work schedule. The risk is that, in attempting to abandon a 24/7/365 work culture, employers and employees will end up back in a rigid 9-to-5 structure (Usui, 2017).

The need to strike a balance between a modern technological world of immediate access and quick replies is being met with global concern because of the need to reduce employee stress, improve employee mental health, and create a better professional-personal balance. Research suggests that constantly working increases stress and has led companies, such as Google, to hire Mindfulness Officers to help employees unwind and clear their minds. Consequently, workers no longer having to sleep with their smartphone is probably a good thing (Perlow, 2012) and this has generated international interest in legislation directed toward limiting after hours' connectivity.

Some organizations, however, believe that *legislating* the right to disconnect may go too far (Stam, 2018). For many customer-driven businesses banning workers from accessing their inboxes or communicating with clients out of hours is not practical or realistic. Generally, firms are not fond of having additional governmental regulations that limit their autonomy while labor organizations are more inclined to support such initiatives. And so various governmental levels should anticipate disagreement and discord between these two constituencies when after hours' connectivity statutes are considered. Much of this clash will involve determining which workers are covered by such lawmaking. Some employees are legitimately required to be on call; for example, senior executives, key maintenance and IT workers, medical staff, and first responders. It makes little sense for such staff to be included in laws prohibiting communication after hours.

Should a right to disconnect law be implemented then organizations will have to develop policies in compliance with such a statute and supervisors and managers will have to be trained in its application. Particularly important in a thorough understanding of what constitutes working off the clock (UpCounsel, n. d.). Moreover, to avoid off the clock litigation firms may want to track the actual work of employees to ensure they comply with the work-time rules. There are many time tracking software programs and all emails and phone calls are time and date stamped. For example, Delve Analytics from Office 365 is a data analytics program that can track time spent writing and answering emails, including after hours work completed (Redmond, 2016). An audit of work productivity will indicate to the employer which employees are working after normal hours and provides information for supervisors to clarify for employees after hours work rules found in the firm's employee policy manual.

It is also important to note that when a new right or requirement is established, an agency must enforce it and a court must interpret it. This will undoubtedly lead to increased litigation. Questions about what a work day is especially for remote employees will have to be addressed. Complaints challenging each employer's definition of "emergency" will happen with greater frequency. Other legal concerns involve overtime payments to employees and issues related to on-call compensation (when an employee is not actually performing job duties but must be available to work if called upon). Even the idea of employees will have to be addressed and organizations may seek not to hire employees but to hire contract workers (individuals retained by a company for a predetermined time, for a predetermined price and for which a company is not responsible for providing a variety of traditional employer benefits) who many not be covered by such regulations. All this adds up to significant costs to implement and monitor right to disconnect legislation in organizations. In their efforts to strengthen the boundaries between work and life, regulators and employers should be careful not to over-determine those boundaries, and instead leave workers with the flexibility to strike that balance on their own. More than the right to disconnect, what workers need is the right to decide for themselves.

CONCLUSION

Technological advances over the past several years including laptops, smartphones, and widely-available wi-fi, have made it easier for people to get work done remotely. And while many appreciate the flexibility and increased productivity that these advancements provide, some lament that the ability to work anywhere, anytime has morphed into an expectation to work everywhere, all the time. Whether at home or in transit, employers are asking or requiring workers to complete assignments, tasks, and projects outside of working hours. This rapidly developing trend has tethered staff to their jobs well after the work day has ended and has resulted in a collapsing boundary between employees' work and personal life.

This circumstance is having a profound detrimental impact on employee privacy and autonomy, employee morale, safety and health, productivity, compensation, rest and leisure, and work-family conflict. To address this difficulty in escaping from work beyond certain hours, to restore the division between work life and personal life, and to recognize the right to disconnect from a constantly connected and networked work culture organizations through private adoption, and governments through legislative initiatives, are investigating how to deal with this phenomenon. Often, enforced work-life balance regulations, like the right to disconnect, are positioned as a human right and part of a larger movement addressing toxic workplace cultures and growing demands for better integration of work and family lives. Moreover, recent work by Unger, Niessen, Sonnentag, and Neff (2014) on time allocation between work and home domains stresses the importance of being allowed to freely allocate time to private life during evening hours. They advocate that employees should not have to feel guilty when they spent less time to work to meet family and relationship demands, because there will be also days that they allocate more time to work.

There appear to be two paradigms for addressing problems associated with enhanced communication technology involving connectivity and immediacy. One approach, which Secunda (2018) refers to as the

"French Legislative Model," (p. 25) attempts to regulate after hours' electronic communication between employer and employee through statutes and lawmaking. This approach has, by far, gained the most publicity. The second method, what Secunda (2018) refers to as the "German Self-Regularity Model," (p. 26) involves voluntary self-determination in which private firms adopt policies that fit their individual or industrial needs. This tactic comes from the belief that any government action is a legislative overstep. These employers seek to balance the interests of their employees with their own industrial needs in a manner more appropriate than what legislative enactments alone could formulate through independent workplace regulation. Regardless of which option is followed, many believe that something must be done to address this problematic issue.

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