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THE AIM AND SCOPE

The aim and scope of the Journal of Marketing and Strategic Management (JMSM) is:

• to mirror the domain of the Business Policy and Strategy division of the Academy of Management and American Marketing Association academic publications requirements. As such, the journal is interested in “the roles and problems of general managers - those who manage multi business firms or multi-functional business units.”, with special reference to the role of Marketing in the Strategic Management.
• to reflect upon, understand, and improve the effectiveness of strategic management, and marketing strategy
• to seek a balance between empirical research and philosophical and conceptual reflections and observations, between topics of broad concern as well as sharply focused work of considerable depth
• to look for significant implications for knowledge development and practice - for the "big picture."

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Dear Readers,

As I indicated in the 10th issue of JMSM, we aim at both strategy and marketing related subjects and functional areas of the corporations within the context of developing strategic plans. We have now open access online journal, and also print versions of JMSM for sale.

This 11th issue will also be uploaded at the website of Strategic Management Review (SMR) since we have the ownership and the name of the journal as well as its website domain.

In this edition we have a larger coverage, like; Research in-progress, A case study and case notes, one conceptual article about failing companies and three empirical articles.

We also added new names with experience and achievements to the Editorial Board to represent all areas of globe and we want to announce that JMSM has been included in Google Scholar, Cabell’s Directory, and Ulrich’s Web Global Serials Directory. Additionally, we continue to work to be included in new databases and indexes.

There seems to be more periodical journals published and some new ones coming into the already crowded market.

Enjoy the 11th year issue.

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TESTING PRODUCT FAMILIARITY MODERATOR EFFECT ON CONSUMER ANIMOSITY BY MODERATING EFFECT AND MULTIGROUP MODERATING EFFECT

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Abstract
Consumer animosity is a perception that consumers have country-based attitudes toward a foreign product, even hostility (animosity) toward a country or nation. This study aims to explore the factors that decrease the negative effect of animosity. Additionally, this study tests the moderator effect of product familiarity on animosity. It was assumed that if consumer is familiar to a foreign product, her or his animosity tendency decreases and her or his buying foreign product behavior increases. Then the study determines the product familiarity as a moderator factor of consumer animosity and willingness to buy foreign products. The moderating effect of product familiarity is measured both multi-group moderation. Product familiarity is also used as a moderator factor on the relationship between animosity and willingness to buy foreign products.

Keywords: buying behavior, consumer animosity, product familiarity
INTRODUCTION

Consumer animosity is a perception that consumers have country-based attitudes towards a foreign product, even hostility (animosity) toward a country or nation. Then, animosity has always been the potential impact on marketing. Klein and colleagues (1998) are the first persons who have addressed the animosity regarding consumer behavior. They initially addressed tensions and conflicts between countries, and then discussed animosity in consumption dimension, and developed the concept of “consumer animosity” (Riefler, Diamantopoulis, 2007: 88). Consumer animosity relates to individuals’ negative feelings and attitudes toward a specific foreign country product, so it implies the antipathy toward a country and its people (Rose, Rose, Shoham, 2009: 331). Consumer animosity arises via various triggers, such as staggering historical events, economic conflict or differences in religion, cultural values or lifestyles (Klein et al., 1998; Riefler, Diamantopoulos, 2007). For example, it can occur according to the national settings, such as animosity of U.S. consumers toward Japan (Klein 2002), different Asian consumers toward the United States and Japan (Ang et al. 2004; Jung et al. 2002; Leong et al. 2008; Shin 2001), Dutch consumers toward Germany (Nijssen and Douglas 2004), Greek consumers toward Turkey (Nakos and Hajidimitriou 2007), Iranian consumers toward the United States (Bahaae and Pisani 2009), or Australian consumers toward France (Ettenson and Klein 2005). Or it arises regional dimension such as consumer animosity between northern and southern regions of the United States (Shimp, Dunn, and Klein 2004) or eastern versus western Germany (Hinck 2004; Hinck, Cortes, James 2004), and ethnic animosity between Jewish and Arab Israelis (Shoham et al. 2006), and religious conflicts (Muslims and Denmark) (Riefler, Diamantopoulos, 2007).

Animosity is a negative attitude towards a country and its’ products. This study aims to investigate the factors that decrease the negative effect of animosity. Then the to test the moderator effect of product familiarity on animosity. It was assumed that if the consumer is familiar the foreign product her or his animosity tendency decreases and buying foreign product behavior increases. Then the product familiarity is determined as moderator factor of consumer animosity and willingness to buy foreign products. The moderating effect of product familiarity is measured both multi-group moderation, i.e., familiar–unfamiliar consumers, and product familiarity as a moderator factor on the relationship between animosity and willingness to buy foreign products.

The study begins with the review of the COO, animosity, ethnocentrism, and product familiarity literature. Next, a series of hypotheses is presented that investigates the effect of
animosity, ethnocentrism and COO effect on consumers’ foreign product buying intends, and the moderating role of product familiarity. Then the findings, implications, limitations and future directions of research are discussed.

LITERATURE REVIEW

Country of Origin Effect (COO)

The concept of country of origin is defined as “the information about where a product is made” (Zhang, 1996: 51). Consumers usually, associate product quality with the country of origin. Ideas of general validity such as “Japanese make the best technological products; Germans produce durable products” are the best examples of this. Country-of-origin refers an information cue that affects judgments of product quality, particularly, when consumers are less familiar with a product category (Han, 1989; Klein, 2002). Thus, the more COO effect is, the more positive consumer response. Country of origin effect has emerged because of prejudices, hostility, ethnocentrism, cultural and demographic differences that developed in the course of time (Chan, Chan, Leung 2010; Hong, Wyer 1989, 1990; Klein, Ettenson, and Morris, 1998; Bilkey, Nes, 1982).

COO is an important information cue when consumers are less familiar with a product category, and the most important COO impact on consumers’ judgments of product quality (Han, 1989; Klein, 2002). Country of origin effect was accepted as an important indicator consumer evaluation a foreign product due to the country image, and generally, this image was used reflecting positive perceptions both country and the product (Laroche, Mourali, 2005; Cui et al., 2012). Some researchers have reported that country image can have considerable impact on consumers’ product evaluation (Bilkey, Nes,1982; Han, 1989; Han, Terpstra, 1988; Roth and Romeo, 1992; Tse and Gorn, 1993; Peterson and Jolibert, 1995; Pharr, 2005; Verlegh and Steenkamp, 1999; Ahmed et al., 2002; Liu and Johnson, 2005). Later, it was asserted that sometimes with halo effect consumer might judge the product just referring country negative image and might refuse to buy the product (Johansson, 1989; Han, 1989; Amine, 2008). Based on literature the following hypotheses proposed:

H1: The country of origin effect is significantly related to willingness to buy the foreign product.
Ethnocentrism
Ethnocentrism occurs when consumers see themselves as members of a distinct group rather than unique individuals. The concept is used here to represent consumers’ beliefs in the superiority of their own country's products (Shimp, 1984). Shimp and Sharma (1987: 280) defined “Consumer Ethnocentrism” (CE) as “the beliefs held by consumers about the appropriateness, indeed morality, of purchasing foreign-made products,” and developed a scale to measure named the CETSCALE (Consumer Ethnocentric Tendencies Scale). CETSCALE is examined in different cultures and countries (Cleveland, Laroche, Papadopoulos, 2009; Klein, Ettenson, Krishnan, 2006; Steenkamp, Hofstede, Wedel, 1999). Sharma (2015) due to arguing about consumer ethnocentrism, identified CE as “an overall attitude towards domestic and foreign products and services comprising effective reaction, cognitive bias, and behavioral preference” (383), and re-conceptualized CE as a three-dimensional “attitude” construct with affective, cognitive and behavioral aspects. Affective reaction refers high an affinity for domestic products and aversion for foreign products. Cognitive bias is perceptions about in-group vs. out-group and includes perceptions about own group’s interests and the importance, superiority, strength, and virtues of the own group compared with others. Behavioral preference represents shortly don’t accept the foreign products (p: 383-84). The constructs animosity and ethnocentric tendencies are important emotional components influencing consumer behavior (Klein et al. 1998; Shimp and Sharma, 1987; Sood and Nasu, 1995).

Even though CETSCALE was developed in a study of American consumers, it was examined different cultures and countries. Some of them reached similar results (Netemeyer, Durvasula, Lichtenstein, 1991), others did not (Papadopoulos, Heslop, Beracs, 1990; Ettenson, 1993).

Consumer ethnocentrism is the most used concept to explain negative consumer attitude towards foreign products. Consumer ethnocentrism was tested different countries, cultures or product attributes, except some result, it was concluded that consumer ethnocentrism is a tendency of consumer attitudes towards the foreign product. (Netemeyer, Durvasula, Lichtenstein, 1991; Papadopoulos, Heslop, Beracs, 1990; Ettenson, 1993). Then the following hypothesis is proposed:

\[ H2: \text{There is a negative relationship between consumer ethnocentrism and willingness to purchase foreign products.} \]

Consumer Animosity
Consumer animosity includes the individuals’ negative attitudes toward a specific foreign country. The first study regarding consumer behavior was conducted by Klein et al. (1998).
Klein et al. (1998: 90) defined animosity as the “remnants of antipathy related to previous or ongoing military, political, or economic events.” As mentioned in definition, animosity is feeling rather than behavior based. Thus, it was defined as “an emotional inclination involving anger, defiance, and alienation” by Kubany et al. (1995).

Consumer animosity results from the argument of the COO biases like perceived product quality. These debates revealed an alternative view of a country’s product evaluation (Cui et al. 2012: 495). Animosity towards a country is not only a consequence of past or ongoing wars between the countries or politics but also might boost serious demonstration derived from previous military events or recent economic or diplomatic arguments. Therefore, there is the complex construction of animosity. Klein et al. (1998) address animosity in two groups: one based on economics and one based on war.

Economic animosity is the hostility of economic acts which are hard to forgive. Economic oppression and exploitation are also important factors in the formation of economic animosity. Economic animosity is more situational and shorter compared to war-based animosity (Little, Cox, Little, 2012: 33). War-based animosity is hostility due to military interventions or wars, for example, Jewish consumers avoiding the purchase of the German-made product (Klein et al., 1998). Klein et al. (1998) claimed that there is a direct relation between willingness to buy product and animosity, and war factors were more closely associated with animosity than were economic factors. Nijssen and Douglas (2004) research provided similar results, according to the findings war animosity had a strong effect on to buy foreign products, while economic animosity has no more effect or an indirect effect through consumer ethnocentrism on consumer product evaluation.

Nes et al. re-evaluated the dimensions of consumer animosity by a study conducted in 2012 and suggested that it has four dimensions: economic animosity, animosity towards people, animosity towards governments or rule and war-military animosity. Researchers added animosity towards people and government of a country. Animosity towards people shows similarity to Riefler and Diamantopoulos’ (2007) animosity towards personal thought.

Cai et al. (2012) suggested implicit animosity as an implicit attitude toward an offending nation. They defined implicit animosity as “introspectively unidentified (or inaccurately identified) traces of experience that lead to unfavorable feelings, thoughts, or action toward a specific (offending) nation” (p.1655). This animosity reveals implicitly or automatically. According to the findings of Cai et al. study, implicit animosity exerted negative impacts on purchase intention.
Lee and Lee (2013) have conceptualized animosity into two dimensions; historical and contemporary animosity. Historical animosity is similar with war animosity was identified by Klein et al. (1988), and contemporary animosity refers social or daily related matters. Authors claimed that historical animosity is stable over the time whereas contemporary animosity is unstable (273-282).

The Relationships between Ethnocentrism, Animosity, and COO

Ethnocentrism, animosity, and COO are evaluated similar attitudes towards foreign product for influencing consumers’ decisions. Even their common effect on consumer decisions, they are different concepts. First, given bias toward foreign products, animosity and ethnocentrism can be thought the same concepts. Consumer ethnocentrism is mainly based on the responsibility and morality of purchasing foreign country products; further implies the loyalty of consumers to products manufactured in their home country (Shimp, Sharma, 1987). Whereas animosity is an attitude related to a specific foreign country; ethnocentrism is related to preferences between domestic and foreign goods (Klein, 2002: 345). Consumer animosity directly and negatively affects consumers’ purchase decisions (Klein, 2002, Klein et al., 1998). Because the idea of hostility is not related to customers’ quality perceptions about a product of a particular country, and it is the case for the effect of country of origin. Consumers may refuse to purchase products of a country against which they feel hostility although that country offers better quality products for the same price (Klein, 2002). The reason for hostility against a country is regardless of the product and may be caused by military events or diplomatic disputes (Nakos, Hajidimitrou, 2007). Hence, animosity does not influence customers’ quality perceptions about a particular product of a particular country, like the effect of country of origin, however, directly influences consumers’ intention to buy a particular foreign product (Nakos, Hajidimitrou, 2007). Animosity is also directed toward a specific target whereas ethnocentrism concerns individuals viewing their own in-group favorably and foreign entities unfavorably (Jung et al. 2012: 525).

Klein (1988) claimed that animosity and ethnocentrism are distinct concepts that can be utilized to explain consumers’ tendencies towards foreign products. Consumer ethnocentrism is related more in-group and out-group norms rather product attributes (Shimp, Sharma, 1987). Consumer animosity is also a non-product related evaluation, on the contrary, based on country image related evaluations (Klein, 1998; 1999; 2002). All researchers focused on this basic assumption and tried to contribute understandings about consumers’ unwillingness to buy foreign products. However, when viewed the antecedents and consequences of the willingness to buy foreign country products, it can see that there is no consensus. Klein (1988; 1999; 2002)
tested the animosity and ethnocentrism are the distinct concepts. Most of the researchers accepted this structure and done their study based this assumption (Rose, Rose, Shoham, 2009; Josiassen, 2011; Funk et al., 2010; Ma, Wang, Hao, 2012; Maher, Clark, Maher, 2010; Mrad, Mangleburg, Mullen, 2014). Some researchers tested reciprocal relations between animosity and ethnocentrism in their studies (Cai et al., 2012). On the other side, some researchers claimed that consumer ethnocentrism results from consumer animosity (Nijssen, Douglas, 2004), especially in low product familiarity (Jimenez, Martin, 2010), whereas Ahmad et al., (2012) claimed that ethnocentrism is an antecedent of animosity. Then to test the relationship between consumer animosity and consumer ethnocentrism, are they separate concepts or related this research hypothesis proposed:

H3: Consumer animosity positively influences consumer ethnocentrism.

As mentioned before, consumers’ product evaluations may be subject to bias as well positive evaluations depending on the degree how the COO perception is strong and creates stereotype (e.g., French perfumes, German automobiles, Japanese electronic products, etc.) (Amine, 2008: 405). Then COO was reevaluated in the way reflecting the halo and summary-construct roles. These debates revealed an alternative view of a country’s product evaluation. Then it was claimed that consumer animosity results from the argument of the COO biases like perceived product quality (Cui et al., 2012: 495). Russell and Russell, (2006) tested whether COO perceptions influence the consumer animosity or not, and suggested that there is a relationship between them unless companies have good reputations apart from national identity. Due to positive consumer perception about COO may decrease animosity towards that country, this research hypothesis is proposed:

H4: COO negatively influences consumer animosity.

Klein (1998; 2002) examined the concept of animosity in his dissertation and proposed a concept, animosity, includes the individuals’ negative attitudes toward a specific foreign country, then that country’s products. Consumer animosity does not influence customers’ quality perceptions about a particular product of a particular country, like the effect of country of origin, however, directly influences consumers’ intention to buy a particular foreign product (Nakos, Hajidimitrou, 2007). Animosity is directed toward a specific target and influences consumer buying decisions (Jung et al. 2012: 525). Then the following hypothesis is proposed:

H5: There is a negative relationship between consumer animosity and willingness to purchase foreign products.
Mediating role of product familiarity

Consumers continuously collect information about products directly or indirectly. This information is got from various sources, including word of mouth, advertising, sales staff, etc. Direct information, on the other hand, is gathered by experiences with the product. Then, familiarity is defined as all this information about a product collected from a consumer and the number of experiences (Alba, Hutchinson, 1987; Laroche, Kim, Zhou, 1996; Cordel, 1997; Jimenez, Martin, 2010). According to another definition, a cognitive reflection of experiences associated with a product in the mind of a consumer (Roth, Romeo, 1992). Studies showed that familiarity influences consumers’ decision-making process (Baker et al., 1986; Campbell, Keller, 2003; Park, Stoel, 2005). Russell and Russell (2006) also propose that product familiarity serves as a cue affecting consumers’ future receptiveness or resistance to domestic versus foreign products.

Product familiarity and COO have been related each other when consumer evaluates a foreign product. Previously COO was used to describe consumer evaluation a foreign product via halo effect of the country image. The consumer has little or no information about a product; country image helps as an information source to evaluate the product. If the consumer is not familiar with a product, COO guides the consumer decisions. It was argued that opposite situations could happen. If a consumer is familiar a country’s product, he or she decides country image due to product performance (Johansson, 1989; Moorman et al., 2004; Samiee, 1994; Jimenez, Martin, 2010). It was seen that as consumers’ familiarity with a product is enhanced; tendency to use country of origin is increased (Michaelis et al., 2008; Tam, 2008; Johansson, 1989; Josiassen, Lucas, Whitwell, 2008). According to the literature following hypothesis is determined:

\[ H_6: \text{There is a significant relationship between COO and product familiarity.} \]

As mentioned before COO provides information about the products due to the country product manufactured (Maheswaran, 1994). If the consumer is less familiar with the product, and he or she is feeling animosity towards that country, the consumer might evaluate products negatively, and animosity tendency increases rejection of foreign products. As consumers become familiar with a product, the familiarity acts as a motivator, and animosity tendency decreases (Jimenez and Martin, 2010).

Then following hypotheses are determined:

\[ H_7: \text{There is a positive relationship between product familiarity and willingness to buy Turkish products.} \]
H8: Product familiarity moderates the relationships between animosity and willingness to buy the foreign products.

METHOD

Product category selection
This research tests the weather the product familiarity has a positive influence on US consumers’ animosity and willingness to buy Turkish products (like foods, textile, home appliances and clothing). The product categories were selected due to Turkey export data to the US. According to the Turkish Statistical Institute and Turkish exporters’ assembly, Turkey export rates are increasing each year to the US. In 2012 the export rate increased 21% according to the previous year (tuik.gov.tr, tim.gov.tr). Turkey export of goods is $ 143.88 billion in 2015 (http://www.statista.com/statistics/255647/export-of-goods-from-turkey/). Turkey was the United States’ 41st largest supplier of goods imports in 2013. The top 5 imports for 2013 were: Vehicles ($818 million), Machinery ($790 million), Iron and Steel ($521 million), Iron and Steel Products ($338 million), and Stone, Plaster, Cement (Travertine and Marble) ($335 million). U.S. imports of agricultural products from Turkey totaled $740 million in 2013. Leading categories include tobacco ($162 million), processed fruit and vegetables ($158 million), and vegetable oils ($101 million) (https://ustr.gov/countries-regions/europe-middle-east/europe/turkey). Beside pre-study result with consumers showed that US consumers know product categories exported from Turkey like textiles (Turkish towel, carpets) and fruits (fig, apricot) and nuts, but they don’t know Turkish brands name. Turkey is mostly known famous textile, clothes, fruits, and nuts. Therefore, the product category is selected due to Turkey’s major export product groups to the US, and most known Turkish product in the US markets.

Data Collection
The data was gathered from a survey method. The universe has composed the individuals who are US citizens. In the research, the product categories include different categories (food, textile or electronics) the study includes all demographic groups in US consumers. The convenience sampling method was used, and surveys distributed in Dallas, Texas in May 2016. The 300 questionnaires were distributed via the internet by Qualtrics. After eliminated incomplete surveys, 257 questionnaires were used to test research hypothesis.

Measurements
Five measurements took place in the research. Consumer animosity was measured into three animosity dimensions, and ten items; economic animosity, public animosity and government
Consumer animosity because there was no war between Turkey and US in the past. Consumer animosity measures were adapted from Klein et al.’s (1988), and Nes, Yelkur, and Silkoset (2012). Consumer ethnocentrism measured a scale has eight items that developed by Shimp, Sharma (1987). Country-of-Origin effect was measured a scale has five questions adapted from Maheswaran (1994). The willingness to buy foreign product construct has five items were adapted from Darling and Arnold (1988), Darling and Wood (1990), and Wood and Darling (1993). All constructs were measured using a five-point Likert scale with “1” indicating “strongly disagree” and “5” indicating “strongly agree.” The Product familiarity was measured with both a nominal scale (Have you ever used Turkish product?) and an interval question (I know/do not know (country) products very well; Laroche, 2005).

**FINDINGS**

The demographic profiles of the respondents are given Table 1.

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<td>Hispanic</td>
<td>21</td>
<td>8.2</td>
</tr>
<tr>
<td>High School / GED</td>
<td>67</td>
<td>26.3</td>
<td>Asian</td>
<td>23</td>
<td>9.0</td>
</tr>
<tr>
<td>Some College</td>
<td>59</td>
<td>23.1</td>
<td>I would rather not report</td>
<td>4</td>
<td>1.6</td>
</tr>
<tr>
<td>2-year College Degree</td>
<td>42</td>
<td>16.5</td>
<td>Single, never married</td>
<td>77</td>
<td>30.2</td>
</tr>
<tr>
<td>4-year College Degree</td>
<td>47</td>
<td>18.4</td>
<td>Married without children</td>
<td>23</td>
<td>9.0</td>
</tr>
<tr>
<td>Master’s Degree</td>
<td>21</td>
<td>8.2</td>
<td>Married with children</td>
<td>102</td>
<td>40.0</td>
</tr>
<tr>
<td>Doctoral Degree</td>
<td>3</td>
<td>1.2</td>
<td>Divorced</td>
<td>18</td>
<td>7.1</td>
</tr>
<tr>
<td>Professional Degree (JD, MD)</td>
<td>3</td>
<td>1.2</td>
<td>Separated</td>
<td>7</td>
<td>2.7</td>
</tr>
<tr>
<td>Income</td>
<td></td>
<td></td>
<td>Income</td>
<td></td>
<td></td>
</tr>
<tr>
<td>$0 - $25,000</td>
<td>40</td>
<td>15.7</td>
<td>Living w/ partner</td>
<td>23</td>
<td>9.0</td>
</tr>
<tr>
<td>$25,001 - $50,000</td>
<td>75</td>
<td>29.4</td>
<td>I would rather not report</td>
<td>5</td>
<td>2.0</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td>Total</td>
<td>255</td>
<td>100</td>
</tr>
</tbody>
</table>

Consumer familiarity was measured three different questions. First, US consumer was asked whether have they ever heard of any Turkish product and wanted to mention which product type they know. Second, it was asked to have they ever used any Turkish product. US consumers 58% familiar with Turkish products, and mostly they know food items. The second question asked the “Have you ever used a Turkish product,” and the which product has they
used, was asked. The consumers who are familiar Turkish products are used the Turkish product same time (52%). Similarly, US consumers have used food items (39%). And thirdly, an interval scale question was asked. Reliability of the instruments was tested using Cronbach’s Alpha. Cronbach’s Alpha scores, descriptive statistics, and correlations for each construct are given in Table 2.

The high correlations between economic animosity, people animosity, and government animosity were noticed and tested whether there is multicollinearity between animosity’s dimensions (see Table 3). The multicollinearity was tested by multiple regression analyses, and it was seen that there is a multicollinearity between three factors (VIF: 3.991 - 3.550). Then it was decided, to sum up economic, people and government animosity as an animosity scale. Later, the validity of constructs was tested by confirmatory factor analysis (CFA). Based on the results of CFA, all constructs satisfy the criteria recommended for CFA –, 0.08 for RMSEA and RMR; 0.9 for GFI, CFI, and Chi-square/df ≤ 3.0 (Hair et al., 2006). Composite reliabilities (CR) and average variance extracted (AVE) were calculated for each construct to test convergent and discriminant validities.

Table 2. Cronbach’s Alpha Scores, Descriptive Statistics, and Correlations

<table>
<thead>
<tr>
<th>Variables</th>
<th>Cronbach Alpha</th>
<th>Mean</th>
<th>SD</th>
<th>Consumer ethnocentrism</th>
<th>Country-of-origin effect</th>
<th>Economic animosity</th>
<th>People animosity</th>
<th>Government animosity</th>
<th>Willingness to buy</th>
<th>Product Familiarity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consumer ethnocentrism</td>
<td>0.95</td>
<td>3.08</td>
<td>0.79</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Country-of-origin effect</td>
<td>0.92</td>
<td>3.60</td>
<td>0.90</td>
<td>0.056</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Economic animosity</td>
<td>0.94</td>
<td>2.70</td>
<td>0.98</td>
<td>0.483**</td>
<td>-0.091</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>People animosity</td>
<td>0.92</td>
<td>2.64</td>
<td>0.99</td>
<td>0.484**</td>
<td>-0.034</td>
<td>0.716**</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Government animosity</td>
<td>0.95</td>
<td>2.83</td>
<td>0.99</td>
<td>0.403**</td>
<td>-0.051</td>
<td>0.667**</td>
<td>0.629**</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Willingness to buy</td>
<td>0.88</td>
<td>3.54</td>
<td>0.96</td>
<td>-0.428**</td>
<td>0.177**</td>
<td>-0.625**</td>
<td>-0.538**</td>
<td>-0.424**</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Product Familiarity</td>
<td>----</td>
<td>2.25</td>
<td>1.34</td>
<td>-0.119*</td>
<td>0.253</td>
<td>-0.155**</td>
<td>-0.070</td>
<td>-0.104*</td>
<td>0.144</td>
<td>1</td>
</tr>
</tbody>
</table>

Table 3. Research Factors’ FIT Indices

<table>
<thead>
<tr>
<th>Variables</th>
<th>CR/AVE</th>
<th>GFI</th>
<th>RMSEA</th>
<th>RMR</th>
<th>Chi/df</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consumer ethnocentrism</td>
<td>0.93/0.72</td>
<td>0.98</td>
<td>0.622</td>
<td>0.018</td>
<td>11.424/3</td>
<td>0.01</td>
</tr>
<tr>
<td>Country-of-origin effect</td>
<td>0.83/0.65</td>
<td>0.97</td>
<td>0.068</td>
<td>0.014</td>
<td>21.76/10</td>
<td>0.016</td>
</tr>
<tr>
<td>Animosity</td>
<td>0.90/0.69</td>
<td>0.998</td>
<td>0.000</td>
<td>0.004</td>
<td>0.876/1</td>
<td>0.349</td>
</tr>
<tr>
<td>Willingness to buy</td>
<td>0.92/0.80</td>
<td>Saturated fit</td>
<td>Saturated fit</td>
<td>Saturated fit</td>
<td>Saturated fit</td>
<td>Saturated fit</td>
</tr>
</tbody>
</table>

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Hypotheses testing

As mentioned before, the research aims to test moderating effect of product familiarity on animosity and willingness to buy the foreign products. So, testing research hypotheses, the relationships between research variables were examined by SEM. Later the mediating effect of product familiarity was tested both multi-group moderator effect (consumers grouped as familiar and unfamiliar consumers) and moderator effect of product familiarity. Results of multi-group moderator effect SEM model are given in Table 4.

<table>
<thead>
<tr>
<th>Relationships for All</th>
<th>Standardized Regression</th>
<th>C.R.</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Country-of-origin effect - Animosity</td>
<td>0.067</td>
<td>1.124</td>
<td>0.261</td>
</tr>
<tr>
<td>Country-of-origin effect - Willingness to buy</td>
<td>0.056</td>
<td>1.289</td>
<td>0.212</td>
</tr>
<tr>
<td>Consumer ethnocentrism - Willingness to buy</td>
<td>-0.201</td>
<td>-3.684</td>
<td>0.000</td>
</tr>
<tr>
<td>Animosity - Willingness to buy</td>
<td>-0.582</td>
<td>-10.523</td>
<td>0.000</td>
</tr>
<tr>
<td>Animosity - Consumer ethnocentrism</td>
<td>0.652</td>
<td>13.753</td>
<td>0.000</td>
</tr>
<tr>
<td>COO - Product familiarity</td>
<td>0.287</td>
<td>4.703</td>
<td>0.000</td>
</tr>
<tr>
<td>Product familiarity - willingness to buy foreign products</td>
<td>0.094</td>
<td>2.070</td>
<td>0.038</td>
</tr>
<tr>
<td>Product familiarity moderator effect</td>
<td>0.204</td>
<td>5.436</td>
<td>0.000</td>
</tr>
</tbody>
</table>

RMSEA: 0.060, RMR: 0.021, Chi/Square: 8.52, Chi/Square/df: 2.84, p-value for test of close fit = 0.297, GFI: 0.92, CFI: 0.99, AGFI: 0.92, NFI: 0.98, RFI: 0.93

In the first model, product familiarity moderator effect was tested as multi-group moderator effect. The sample was divided into less familiar and highly familiar consumers. Familiar consumers have chosen the basis of the using the Turkish product. According to the findings, 120 US consumers are familiar with the Turkish products, and 137 consumers are unfamiliar. The multi-group analysis was performed with AMOS 20 using a hierarchical approach to compare the Chi-square of the two sub-samples. Excel programming was used to calculate an overall Chi-square differences. The model that imposed equality constraints parameters across the subgroups was compared with the general non-restricted model. The unconstrained and fully constrained models’ chi-squares are statistically different ($X^2 = 9.357$, df. 6; $X^2 = 36.744$, df. 14, $p = 0.001$). Later each path was examined to see which relations are moderated by familiarity. Familiar and unfamiliar groups’ SEM results are given in Table 5. The factors’ Chi-square difference test results are given in Table 6.
Figure 1. Multi-group Moderator Effect Model

Table 5. Familiar and Unfamiliar Groups SEM Results

<table>
<thead>
<tr>
<th>Relationships</th>
<th>Familiar Group</th>
<th>Unfamiliar Group</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Standardized Regression</td>
<td>C.R.</td>
</tr>
<tr>
<td>Country-of-origin effect - Animosity</td>
<td>-0.214</td>
<td>-2.395</td>
</tr>
<tr>
<td>Animosity - Consumer ethnocentrism</td>
<td>0.711</td>
<td>11.047</td>
</tr>
<tr>
<td>Animosity - Willingness to buy</td>
<td>-0.487</td>
<td>-5.047</td>
</tr>
<tr>
<td>Consumer ethnocentrism - Willingness to buy</td>
<td>-0.226</td>
<td>-2.372</td>
</tr>
<tr>
<td>Country-of-origin effect - Willingness to buy</td>
<td>0.058</td>
<td>0.839</td>
</tr>
</tbody>
</table>

The US consumers who are familiar with Turkish products results are pretty similar to all groups’ results, except the COO negatively affects the animosity (Estimate: -0.336, SE: 0.140). Familiar consumers have a more positive image of Turkish product, and this image decreases consumer animosity toward Turkish product. In the familiar group, there are significant relations between animosity and ethnocentrism (Estimate: 0.702, SE: 0.064), animosity and willingness to buy a foreign product (Estimate: -0.482, SE: 0.095) consumer ethnocentrism and willingness to buy a foreign product (Estimate: -0.227, SE: 0.096). Also, similar to all consumer groups there is no relationship between COO and willingness to buy a foreign product (Estimate: 0.090, SE: 0.107).

In unfamiliar group’s findings similar to the familiar group except for COO positively affects the animosity (Estimate: 0.406, SE: 0.111). Consumers who are unfamiliar Turkish product have a positive image of Turkish product, but this image increases consumer’s
animosity toward Turkish product. In unfamiliar group, there are significant relations between animosity and ethnocentrism (Estimate: 0.624, SE: 0.077), animosity and willingness to buy a foreign product (Estimate: -0.766, SE: 0.084) consumer ethnocentrism and willingness to buy foreign product (Estimate: -0.247, SE: 0.074). Also, similar to all consumer groups there is no relationship between COO and willingness to buy a foreign product (Estimate: 0.024, SE: 0.095).

According to the Chi-square differences test results, familiarity has a moderating effect in the research model. Each path was examined to determine which path has the moderate role of familiarity. According to the results, product familiarity influences both COO-animosity relationship, and animosity-willingness to buy foreign products. In the familiar group, COO has a positive influence on animosity towards Turkish products i.e., consumers have less animosity towards Turkish product. In both groups the relationships between animosity and willingness to buy Turkish product looks similar, i.e. in both groups animosity decreases the willingness to buy Turkish product. However according to the two groups’ Chi-square differences test results; in the familiar group, this tendency is lower than the unfamiliar group. If consumers are familiar the foreign product, their animosity tendency is decreasing and the willingness to buy the foreign product is increasing.

Table 6. Chi-squares Difference Test Results

<table>
<thead>
<tr>
<th></th>
<th>Familiar</th>
<th>Unfamiliar</th>
<th>z-score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Animosity &lt;--- COO</td>
<td>-0.336</td>
<td>0.017</td>
<td>4.147***</td>
</tr>
<tr>
<td>Willingness to buy &lt;--- COO</td>
<td>0.090</td>
<td>0.401</td>
<td>-0.462</td>
</tr>
<tr>
<td>C. Ethnocentrism &lt;--- Animosity</td>
<td>0.702</td>
<td>0.000</td>
<td>-0.778</td>
</tr>
<tr>
<td>Willingness to buy &lt;--- Animosity</td>
<td>-0.482</td>
<td>0.000</td>
<td>-2.239**</td>
</tr>
<tr>
<td>Willingness to buy &lt;--- C. Ethnocentrism</td>
<td>-0.227</td>
<td>0.018</td>
<td>-0.164</td>
</tr>
</tbody>
</table>

Notes: *** p-value < 0.01; ** p-value < 0.05; * p-value < 0.10

In the second stage, the moderator effect of product familiarity was tested adding the new moderator variable. The moderator effect of product familiarity SEM model is shown in Figure 2.
In research model, all relations between factors are indicated, and product familiarity moderator effect was added. This model has also tested the relationship between COO-products familiarity. Results are in Table 7.

![Figure 2. Moderator Effect Model](image)

### Table 7. Moderator Effect Model SEM results

<table>
<thead>
<tr>
<th>Relationships</th>
<th>Standardized Regression</th>
<th>C.R.</th>
<th>p-value</th>
<th>Hypotheses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Country-of-origin effect - Animosity</td>
<td>0.067</td>
<td>1.124</td>
<td>0.261</td>
<td>H4 is rejected</td>
</tr>
<tr>
<td>Country-of-origin effect - Willingness to buy</td>
<td>0.056</td>
<td>1.289</td>
<td>0.212</td>
<td>H1 is rejected</td>
</tr>
<tr>
<td>Consumer ethnocentrism - Willingness to buy</td>
<td>-0.201</td>
<td>-3.684</td>
<td>0.000</td>
<td>H2 is accepted</td>
</tr>
<tr>
<td>Animosity - Willingness to buy</td>
<td>-0.582</td>
<td>-10.523</td>
<td>0.000</td>
<td>H5 is accepted</td>
</tr>
<tr>
<td>Animosity - Consumer ethnocentrism</td>
<td>0.652</td>
<td>13.753</td>
<td>0.000</td>
<td>H3 is accepted</td>
</tr>
<tr>
<td>COO - product familiarity</td>
<td>0.287</td>
<td>4.703</td>
<td>0.000</td>
<td>H6 is accepted</td>
</tr>
<tr>
<td>Product familiarity - willingness to buy foreign products</td>
<td>0.094</td>
<td>2.070</td>
<td>0.038</td>
<td>H7 is accepted</td>
</tr>
<tr>
<td>Product familiarity moderator effect</td>
<td>0.204</td>
<td>5.436</td>
<td>0.000</td>
<td>H8 is accepted</td>
</tr>
</tbody>
</table>

RMSEA: 0.072, RMR: 0.023, Chi/Square: 6,942, Chi/Square/df: 2, 314, p-value for test of close fit = 0.238, GFI: 0.99, CFI: 0.99, AGFI: 0.94, NFI: 0.98, RFI: 0.92

The values of SEM models are within the threshold limits by prescribed by Hair (2006). Based on results for both model, there is no statistical relationship between Country-of-origin effect and willingness to buy a foreign product. Then H1 is rejected. There is a negative relationship between consumer ethnocentrism and willingness to buy a foreign product, and H2 is accepted. There is a negative relationship between consumer animosity and willingness to purchase foreign products, and H3 is accepted. There is no statistical relationship between Country-of-origin effect and willingness to buy a foreign product. Then H1 is rejected. There is no statistical relationship between Country-of-origin effect and animosity, and H4 is rejected. It was seen that there are significant relations between animosity-willingness to buy the foreign product and animosity-consumer ethnocentrism and COO-product familiarity, and product familiarity.
willingness to buy. And also, product familiarity has a moderator effect on animosity-willingness of buying foreign products. Then H5, H6, H7 and H8 hypotheses are accepted.

![Figure 3. Product Familiarity Interaction Effect Plot](image)

Product familiarity has a positive effect on animosity as seen from Figure 3. People, who have high product familiarity, have less animosity towards foreign products. Product familiarity decreases negative feelings about foreign products or country like animosity. These positive attitudes result with buying behavior.

**DISCUSSION**

This research’ main object is to test moderation effect of product familiarity on consumer animosity and willingness to buy the foreign product. The results showed that product familiarity has a moderating effect on animosity and willingness to buy foreign products. This moderating effect was tested in two ways. One is a multi-group moderating effect, and other is a moderating effect. In multi-group moderating effect, it was found that there are differences between familiar group and unfamiliar group. For the familiar group; animosity is the antecedent of consumer ethnocentrism, consumer ethnocentrism and animosity decreases the willingness to buy the foreign product, and COO has a negative effect on consumer animosity, but COO has no effect on willingness to buy foreign products. Familiar consumers COO image has a detractive influence on animosity. Consumers familiar with Turkish products have a positive COO image, and this positive image decreases their animosity tendency. On the other side, the unfamiliar group’ findings look similar with the familiar group, except COO and animosity relations. For the unfamiliar group, COO has the positive effect on animosity; unfamiliar consumer COO images about Turkey increase the consumer animosity towards
Turkey. These consumers do not know Turkish products, and they have a negative COO image about Turkey leads the consumers’ animosity to increase. When tested which paths are influenced the product familiarity moderation effect, it was seen that product familiarity has a moderating effect on animosity-COO effects and animosity-willingness to buy foreign products paths. The moderating effect of product familiarity on animosity and COO regarding familiar and unfamiliar groups are mentioned above. If we seek the relationship between familiar and unfamiliar group animosity tendencies and willingness to buy the foreign product, we see that in a familiar group, animosity influences on willingness to buy a foreign product is less than the unfamiliar group. In an unfamiliar group, animosity’s effect on an unwillingness to buy a foreign product is higher than familiar consumer group. According to the second moderator model, all relations mentioned above is the same. For example, COO has no significant effect on both animosity and willingness to buy Turkish products.

In second model moderator effect of product familiarity was tested, and according to the findings, product familiarity has a moderator effect on animosity-willingness of buying a foreign product like as multi-group moderator effect. At the end of the study, it was seen that if consumers are familiar with a foreign product their animosity tendency decreases, willingness to buy foreign product behavior increases. The product familiarity influences to change the direction of the relations between animosity and willingness to buy foreign products. Consumer’s familiarity can alter the negative feeling about a country (animosity tendency) to positive behavior (willingness to buy a foreign product).

The focus of this research is to test moderator effect of product familiarity in different ways and compare them. Findings show that results are pretty similar in the two methods, but it was seen that the multi-group moderator effect is more explanatory than moderator variable effect. In multi-group moderator effect, it is possible to descriptive all factors according to the groups; adding moderator variable situations, it just can interpret the relations between moderator-dependent and independent variables. Of course, two ways have different advantages depends on the circumstances; nevertheless, it can be said that multi-group moderator effect is more efficient to describe consumer behavior.

**IMPLICATIONS**

The findings of the research reveal several implications for marketing managers, especially for international companies. The consumer animosity is powerful negative beliefs that direct both the consumers’ buying decisions and the international business. Like consumer ethnocentrism, it refers the refuse to use foreign country products, except animosity is toward a specific
country. Moreover, perhaps the most difficult point of this hurdle is the consumer attitudes towards a foreign product are not related to product attributes. Consumer animosity has a directive effect on consumer behavior causes to gather notice on it. So researchers pay much attention to understanding consumer animosity, its antecedents, and consequences.

This research implied that consumer animosity and consumer ethnocentrism are related negative beliefs about foreign products, and they have a negative effect on willingness to buy foreign products. At the same time, consumers’ bias about foreign products is not related to product attributes rather historical, political or people based beliefs. COO is a clue about a product quality based on the country image if the consumer is familiar with the product. Otherwise COO doesn’t have a positive influence on the willingness to buy the foreign product. Josiassen, (2008) found that “influence of COO image on product evaluation depends on consumers’ level of product familiarity.” This finding also supported our findings that product familiarity is the most effective factor to understand negative consumer attitudes and to buy decisions where COO does not provide a strong clue. Further, it was seen that there is a statistically significant relation between COO and product familiarity. This clarifies that product familiarity also helps to develop a COO image. Then for international companies, the familiarity with the product is a more persuasive tool than the country image, an especially country that haven’t apparent image related to the product. The familiarity helps the international firms to alter bias towards country images and provide reach more international markets.

Then it can be said that Turkish companies to increase the familiarity can join international fair and presenting in international organizations. The more cooperation with international firms means the more familiarity in foreign markets. Co-branding or joint-ventures might be a useful method to reach international markets.

LIMITATIONS
The major limitation of the study is not mentioned the specific product category and relatively small sample size. Then the results cannot be generalized to specific product categories and all US consumers. The study aims to test the familiar and unfamiliar consumer tendencies and attitudes towards Turkish product. Then sample should contain similar size consumer. To reach consumers who are familiar Turkish product is the main reason the small sample size. The small amount of the familiar participant led getting a small amount of the unfamiliar participants to prevent unequal groups amounts.
FUTURE RESEARCH

Marketers, as well as researchers’ aim, is to understand insights beneath of the consumer behavior then develop proper strategies. Their priority is to handle undesired tendencies like consumer animosity and to revive global business. So contributing the globally developing markets, it is essential to find out factors that have an impact on negative feelings and beliefs. The recommendations for future research are in the same line, i.e., to understand reasons and conclusion animosity tendencies.

First, the research model should be validated in a different country context to test and discover different consequences of variables linked to animosity and other marketing factors. Future studies would test animosity model in specific product categories. Also, future research might take consideration to compare products that related to country image and unrelated to the country image. Then it would provide detailed data about COO effects on product evaluation.

Another point is when testing negative consumer attitudes towards foreign products, to notice country-related attitudes might be more helpful. Many countries have not salient image regarding country or product image. Moreover, apparent examples do not help to explain consumer tendencies. Then to notice specific content related country attributes might provide more involved results.

At last, it was recommended when testing moderator effect; it should consider not just adding moderator variable but using multi-group moderator effect. As seen the research to define consumer behavior multi-group is more efficient.

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RESEARCH-IN-PROGRESS
DATA NEVER SLEEP: A MARKETING PERSPECTIVE

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Abstract
Millions of people share photos, texts, videos, and other types of contents on various social networking sites in their daily lives. It indicates that there is an enormous amount of data generated by those people on the Internet and this data generation continues to grow fast. Businesses collect any data such as consumer preferences, purchases, or trends on the Internet to keep their strategies up-to-date, to take strategic precautions, and to satisfy their consumers. In this sense, this study aims to analyze trending topic data gathered from Twitter that is one of the most popular and publicly available social media data sources. In Twitter, more than 500 million tweets are shared per day, and some of them become trending ones. These trending topics have the power to keep people aware and entertained. This capability also provides e-marketers with a useful tool to get in front of a big and potential audience. In parallel, this study investigates 100 trending topics involving 301,492 tweets and 92,745 unique users, and it clusters these topics considering user-related factors. Thus, this research shows a way for e-marketers how to make a trending topic and to reach new audiences through social networking platforms.

Keywords: clustering, social media, trend topic, Twitter, e-marketing
INTRODUCTION

A new popular term called as big data has shown up, and people and academics in information technologies have become more interested in it. Big data is defined as “datasets whose size is beyond the ability of typical database software tools to capture, store, manage, and analyze” (Manyika et al., 2011). This definition highlights that big data does not only mean gigabytes or terabytes of large data, but it also refers to datasets that cannot be collected, saved, and analyzed by traditional database systems (Purcell, 2013).

Today, data are not only generated from traditional ways but also from the Internet, social networking sites, multimedia contents, digital images, GPS signals, etc. For example; in 2013, 4.4 zettabytes of data were generated in the world, and by 2020 there will be 44 of zettabytes data (Northeastern University, 2016). Additionally, Google processes 3.5 billion requests per day and stores 10 exabytes data (Deep Web Tech, 2016). Amazon hosts about 1.4 million servers to handle with daily requests. Facebook collects 500 terabytes of daily data including contents, likes, and photos. Moreover, 90% of the data are created within last two years (Gobble, 2013). These statistics indicate that data never sleep.

In parallel to these statistics, the analysis of these data has become beneficial and even crucial for various industries to maintain their status quo and catch up this new this era. 95% of the US businesses state that they prefer to use data to power their business opportunities and 84% of the US businesses say that data have become the part of their business strategies (The Global Data Management Benchmark Report, 2017). Furthermore, investigating lots of data allows businesses to understand consumers’ needs and their purchasing habits.

Twitter is one of valuable data sources in where a considerable amount of data is generated. Twitter provides people and academics with application program interface (API) that makes data collection is easy and less effortless for every Internet user (Burgess and Bruns, 2012). Twitter that was released in 2006 is a very popular microblogging platform around the world. It has already become a natural platform where information disseminates severely (Ribarsky et al., 2014). Users send more than 500 million tweets per day (Omnicore, 2017). Tweets are known as text messages including 140 characters. In tweets, words or phrases whether including “# (hashtag)” or not can be a trending topic. For example; both #madonna and “I love Madonna” can be trending topics. These topics can be determined as emerging events, breaking news, and general topics (Ahangama, 2014), and they become visible to all users. In this respect, this study focuses on trending topics on Twitter and tries to find answers to the following questions:

• how a hashtag becomes a trending topic naturally,
how Twitter users create a trending topic,
what factors affect topics to be a trending one,
how e-marketers can benefit from trending topics.

Within the scope of the study, 100 trending topics have been collected over a three-week period. For each trending topic, tweets that included related trending topic were gathered. After that, users who tweeted were obtained, and their total number of tweets, followers, and followings were collected. As a result, 301,492 tweets and 92,745 unique user information have been collected. After that, these trending topics are clustered by taking all related and collected data into considerations.

This paper is divided into four sections. The related works are explained in the first section. In the second section, the methodology of the study is included. In the third part, the study results are presented. In the last section, the study highlights and implications are discussed.

**RELATED WORK**

Trending topics have been analyzed in many academic studies for various purposes. In their study, Naaman et al. (2011) characterize the emerging trends on Twitter. They study on two datasets including 8,500 trends and 48,000,000 tweet messages. They focus on the trend detection by using term frequency-inverse document frequency (TF-IDF) weighting as a methodology. In the study of streaming trend detection in Twitter, Benhardus and Kalita (2013) also use this same methodology for the trend detection. They define TF-IDF weighting as “an information retrieval technique that weights a document’s relevance to a query based on a composite of the query’s term frequency and inverse document frequency.”

Additionally, Lee et al. (2011) use TF-IDF weighting technique as a part of their study. They try to classify trending topics based on 18 categories in the study. Firstly, they create 18 categories and then apply two approaches for the topic classification: a bag of words for text classification and network-based classification. In the text-based classification method, they use TF-IDF weighting technique. In network-based classification method, they identify five associated topics for a given topic based on the number of common users. They randomly select 768 trending topics and apply these techniques and compare the accuracy results.

Moreover, Gao et al. (2013) study on the summarization of the Twitter trending topics. They do analyses by using both streams based and semantic-based approaches to detect important subtopics within a trending topic, and then they propose a sequential summarization. Gao et al. (2013) focus on Latent Dirichlet Allocation (LDA) statistical model and Kurniati et al.
al. (2014) also concentrate on the same statistical model. They compare the effectiveness of LDA and semantic-based Joint Multi-Grain Topic-Sentiment topic modeling techniques in their study. They collect 8.6 million tweets and apply these techniques to detect trend topics from Twitter stream data. Besides, Lau et al. (2012) introduce a novel topic modeling-based methodology to follow emerging events on Twitter based on LDA statistical model. Furthermore, Yang and Rim (2014) expand LDA as TS-LDA which stands for trend-sensitive. This model extracts latent topics from contents.

Wilkinson and Thelwall (2012) make an international comparison. They collect tweets from 6 countries including 0.5 billion tweets based on the top 50 trending keywords. They compare the trending topics based on each country. Lastly, Ma et al. (2013) focus on the predicting the popularity on newly emerging hashtags in Twitter. In their study, they compare five classification models among which the logistic regression model performs the best. Aiello et al. (2013) also compare six topic detection methods by using Twitter stream data.

In addition to this research, Ahangama (2014) presents a new method in his study. This new method finds the trending topics of different social media networks using real-time data that are published on Twitter. Song and Kim (2013) also develop such a system. They call it as “real-time Twitter trend mining system” to process a huge volume of data available on Twitter.

Moreover, Han et al. (2014) study trend topics from a distinct perspective. They try to disambiguate the meanings of the topics in the trending list. They compare and apply key factor extraction, named entity recognition, topic modeling, and automatic summarization methods to extract the contents of trending topics. Giummolè et al. (2013) compare Twitter trends and Google hot queries. They test the relation between comparable Twitter and Google trends by testing three classes of time series regression models.

Furthermore, Ostrowski (2012) makes semantic social network analysis for trend identification. In other words, the methodology focuses on the utilization of semantics and identifies the influence and power of key players in relevant social networks. Zublaga et al. (2015) also classify the trends based on types of triggers such as news, ongoing events, memes, and commemoratives. Lastly, Stafford and Yu (2013) analyze Twitter trend topics and the effects of spam on Twitter’s trending topics.
METHODOLOGY

This section explains how the related data are collected, preprocessed for further analyses, and analyzed.

Data Collection

Data collection includes three steps. In the first step, “GET trends/place” standard Twitter API is used to collect trending topics in Turkey. This API is executed in every 60 seconds iteratively due to API execution limit for a developer. 100 unique trend topics and their creation time are collected between 24th May 2014 and 13th June 2014. Table 1 shows the data structure of the collected trending topics.

<table>
<thead>
<tr>
<th>Data</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>trend id</td>
<td>unique number for each trending topic.</td>
</tr>
<tr>
<td>name</td>
<td>word/phrase/hashtag that becomes a trending topic.</td>
</tr>
<tr>
<td>trend creation time</td>
<td>the time when the topic becomes a trending topic.</td>
</tr>
</tbody>
</table>

At the second step, shared tweets for each trending topic are collected by “GET search/tweets” Twitter API. As a result, 301,492 tweets are accumulated. Table 2 shows the data structure of the collected tweets. The text form of the tweet, its creation time, retweet count, and user information are gathered.

<table>
<thead>
<tr>
<th>Data</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>tweet id</td>
<td>unique number for each tweet.</td>
</tr>
<tr>
<td>tweet text form</td>
<td>text form of the tweet.</td>
</tr>
<tr>
<td>tweet creation time</td>
<td>the time when the tweet is sent.</td>
</tr>
<tr>
<td>retweet count</td>
<td>the count how many times a tweet is retweeted by other users.</td>
</tr>
<tr>
<td>user id</td>
<td>identification number of the user who sends the tweet.</td>
</tr>
<tr>
<td>trend id</td>
<td>identification number of the related trending topic.</td>
</tr>
</tbody>
</table>

In the third step, data about users who shared those tweets are collected by “GET search/tweets” Twitter API. As a result, data for 92,745 unique users are accumulated. Table 3 includes the data structure of user-related information. Users’ Twitter usernames, account creation time, and the number of tweets, followers, followings, and favorites are collected.
Table 3. Data structure of user table

<table>
<thead>
<tr>
<th>Data</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>user id</td>
<td>unique number for each user.</td>
</tr>
<tr>
<td>username</td>
<td>Twitter username of the user.</td>
</tr>
<tr>
<td>user creation time</td>
<td>the time when the user account is created.</td>
</tr>
<tr>
<td>user favorite count</td>
<td>the number of tweets favorited by the user.</td>
</tr>
<tr>
<td>user followers count</td>
<td>the number of users following that user.</td>
</tr>
<tr>
<td>user tweet count</td>
<td>the number of tweets that the user shared.</td>
</tr>
<tr>
<td>user friend count</td>
<td>the number of users that the user follows.</td>
</tr>
<tr>
<td>query</td>
<td>query of the trending topic to define specific users who sent tweets for the given trending topic.</td>
</tr>
</tbody>
</table>

**Data Preprocessing**

Data are preprocessed before performing any analysis on them. Identification of the time of when the word/phrase/hashtag is created and the time of when it becomes a trending topic is essential. The time when it becomes a trending topic is collected as “trend creation time” as in Table 1. The time when it is created for the first time is taken as the creation time of the first tweet including that topic. In this sense, a new variable called as “trend time” is derived by calculating these two variables. “Trend time” includes the elapsed time from the creation of the topic to the time when it becomes a trending one. For example; #deprem (#earthquake in English) is one of the trending topics. The first tweet including this hashtag is created on 24th May 2014 at 12:26 and it has become a trending topic on 24th May 2014 at 12:31. “Trend time” shows that #deprem has become a trending topic in 5 minutes.

After that, “tweet count” and “retweet count” variables are calculated. All the tweets for the given trending topic are gathered together. The critical point is that tweets including “RT” (Retweet) in their texts are excluded because they are used for the calculation of “retweet count.” Then, tweets posted until “trend time” are counted as “tweet count,” and retweets are counted as “retweet count.” For example; there are 459 tweets and 395 retweets including the hashtag #deprem between 12:26 and 12:31 before the hashtag becomes a trending topic (see Figure 1).

The next step includes the calculations of the average of users’ total tweets, followers, and followings for each trending topic. For example; 489 unique users have written tweets including the hashtag, #deprem, up to 12:31 before it becomes a trending topic. It is essential to collect unique users because a user can send more than one tweet including the same trending topic. These 489 individuals follow 578 users and are followed by 3098 users on average, and send 5223 tweets in total. Table 4 shows the final data structure being analyzed.
Data Analysis

To analyze the final data, SPSS 22 is used. Trending topics are clustered by taking the factors of trend time, tweet count, retweet count, average user total tweets, average user followings, and average user followers as shown in Table 4 into consideration. Before the analysis, all variables are standardized to ensure that all of them contribute equally to the similarity between the observations.

Clustering is known as an interdependence technique that variables cannot be classified as independent or dependent variables (Hair et al., 2010). In other words, Hair et al. (2010) state that all variables are examined simultaneously to find an underlying structure to the complete set of variables which is also parallel with the aim of this study. Wald’s cluster method is applied to determine the number of clusters. According to Sharma (1996), Ward’s method creates clusters by maximizing within clusters homogeneity. It computes the sum of squared distances within clusters and aggregates clusters with the minimum increase in the overall sum.
of squares. In other words, this method does not compute distances between clusters and it tries to minimize sums of squares within clusters.

After the determination of the number of clusters, the k-means clustering algorithm that “partitions the observations into a user-specified number of clusters and then iteratively reassigning observations until some numeric goal related to cluster distinctiveness is met” is applied (Hair et al., 2010).

**RESULTS**

At the first stage, hierarchical clustering analysis is conducted by using agglomerative clustering technique as seen in Figure 2.

According to Figure 2, it is evident that stage 97 indicates the optimal stopping point for merging clusters, so it is concluded that three clusters are the optimal solution for the given dataset. After this stage, a k-means clustering algorithm is run to obtain three clusters. Table 5 shows the distribution of the observations for each cluster. There are 63, 24, and 13 trending topics in clusters one, two, and three respectively.

<table>
<thead>
<tr>
<th>Cluster</th>
<th>Number of Cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>63</td>
</tr>
<tr>
<td>2</td>
<td>24</td>
</tr>
<tr>
<td>3</td>
<td>13</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
</tr>
</tbody>
</table>

**Table 5. K-Means Cluster Distribution**

Figure 2. Scree diagram of agglomeration distances
Table 6 provides ANOVA results for the cluster centers. It is evident that trend time, total tweets, total retweets, average user total tweets, average user total followers, and average user total followings are significant. It indicates that means of all clustering variables differ significantly from each other. Moreover, when F values are considered, it is revealed that average user total followers, average user total followings, and total retweets have the greater F values, respectively. It shows that these variables have the significant influence in the formation of the clusters, whereas trend time with 5.949 F value has the least significant effect.

Table 6. K-Means ANOVA Results

<table>
<thead>
<tr>
<th>Cluster</th>
<th>Mean Square</th>
<th>df</th>
<th>Mean Square</th>
<th>df</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trend time</td>
<td>5.408</td>
<td>2</td>
<td>.909</td>
<td>97</td>
<td>5.949</td>
<td>.004</td>
</tr>
<tr>
<td>Total tweets</td>
<td>18.044</td>
<td>2</td>
<td>.649</td>
<td>97</td>
<td>27.820</td>
<td>.000</td>
</tr>
<tr>
<td>Total retweets</td>
<td>22.037</td>
<td>2</td>
<td>.566</td>
<td>97</td>
<td>38.918</td>
<td>.000</td>
</tr>
<tr>
<td>Average User Total Tweets</td>
<td>15.294</td>
<td>2</td>
<td>.705</td>
<td>97</td>
<td>21.684</td>
<td>.000</td>
</tr>
<tr>
<td>Average User Total Followers</td>
<td>26.416</td>
<td>2</td>
<td>.476</td>
<td>97</td>
<td>55.503</td>
<td>.000</td>
</tr>
<tr>
<td>Average User Total Followings</td>
<td>23.371</td>
<td>2</td>
<td>.539</td>
<td>97</td>
<td>43.382</td>
<td>.000</td>
</tr>
</tbody>
</table>

Table 7 compares the variables for each cluster. According to Table 7, while topics in the first cluster become trending topics in about 31 minutes, they become trending topics in almost 36 minutes and nearly 54 minutes in the second and third clusters, respectively. One of the outstanding results is that users have more followers and followings in the first and second clusters concerning the third cluster. As it is expected, it indicates that users that have more followers and followings have the power to make a topic as a trending one in between about 31-36 minutes. On the contrary, it takes more time to make a topic as a trending one for users having fewer followers and followings in the third cluster than users having more followers and followings in the first and second clusters.

Furthermore, when three clusters are considered, it is evident that retweeting is more critical than tweeting. It requires more retweets than tweets to be a trending topic for a word/phrase/hashtag in each cluster. Also, considering the average trend time, users that post more tweets or users who are one of the most active Twitter users have more influence to make a topic as a trending one in a short time. Table 7 also indicates that words/phrases/hashtags that become trending topics in a shorter time require fewer tweets than words/phrases/hashtags that become trend topics in a longer time. The main reason can be that these topics may be diffused.
more naturally among users. The trending topic algorithm of Twitter may more pay attention to the natural and real contents than the contents that include spam/ad and are shared by bot accounts.

Table 7. Cluster Analysis Results

<table>
<thead>
<tr>
<th>Cluster</th>
<th>Average Trend Time</th>
<th>Average Total Tweets</th>
<th>Average Total Retweets</th>
<th>Average User Total Tweets</th>
<th>Average User Total Followers</th>
<th>Average User Total Followings</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>31.44</td>
<td>689.47</td>
<td>1171.22</td>
<td>166286.44</td>
<td>76319.71</td>
<td>49332.58</td>
</tr>
<tr>
<td>2</td>
<td>36.31</td>
<td>560.86</td>
<td>1686.31</td>
<td>180312.86</td>
<td>85824.02</td>
<td>58670.43</td>
</tr>
<tr>
<td>3</td>
<td>53.60</td>
<td>2427.00</td>
<td>5985.20</td>
<td>27430.25</td>
<td>13237.74</td>
<td>12022.79</td>
</tr>
</tbody>
</table>

CONCLUSION

This study analyzes and considers the factors having a role in the creation of trending topics on Twitter. For this purpose, unstructured data from Twitter including 100 trending topics, 301,492 tweets, and 92,745 unique users have been collected over a three-week period and converted into a processable format.

Three clusters are obtained by using Ward’s method. After that, cluster analysis is performed by using k-means clustering algorithm. Results indicate that the number of retweets and the number of users’ average total followers and their total followings have significant effects on the formation of the clusters. In other words, retweets, the number of followers and followings are vital variables to classify trending topics.

Also, three clusters are compared by considering all related variables. Results reveal that users having more followers and followings have the greatest influence to make the topics as trending ones in a shorter time. For example; when the profiles of the first 20 users who shared tweets including the hashtag #deprem, are examined, they have 332.65 followers, 2,872.95 tweets, and 429.75 followings on average. Besides, as it expected, users having fewer followers and followings on average render a hashtag as a trending topic in a longer time. This result indicates that network of Twitter users plays a significant role to make topics as trending ones.

Retweeting also plays a significant role when the three clusters are compared with each other. It is unexpected that a topic is rendered as a trending topic by more retweeting about the topic than more tweeting about it. It implies that when users begin to retweet the tweets containing the topic, this chain creates an effect on Twitter. In this sense, it can be summarized that to create a trending topic, a robust social network including more followers and followings, and an organic retweet chain is one of the most critical influential points.
From e-marketers’ point of view, they should understand and talk to their consumers in digital platforms such as in Twitter (Linton, 2015). They can offer products and services to their consumers, they can diffuse any product, service, and brand information, and even they can enhance their images on the minds of their consumers, and so they can take advantage of these digital mediums (Chaffey et al., 2006; Sheth and Sharma, 2005; Hutchings, 2012). For example; 70% of consumers use social networking sites to get a product and brand information and to consider other people’s recommendations (Kirtiş and Karahan, 2011). In this sense, e-marketers can benefit from trending topics for their brands. Trending topics give insight about what people more care about their lives, the world, politics, marketing, etc. E-marketers can get clues about things such as seasonal trends, purchasing behaviors, or characteristics of users. Additionally, e-marketers can get their brands noticed by creating trending topics and reach lots of their existing and potential consumers. They should pay attention to that contents should be shared organically and retweeted as much as possible by the most active Twitter users. In such a way, they can also start new marketing trends and become highly ranked in front of the eyes of their audiences.

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CASE ANALYSIS AND NOTES
LEVI STRAUSS: AN ICONIC AMERICAN COMPANY ATTEMPTS TO REINVENT ITSELF

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Case Synopsis
Long the dominant player in the jeans industry, and in fact the creator of the industry itself, Levi Strauss has for years been struggling to keep its brand relevant in an expanding marketplace. No longer the brand of choice of many consumers, Levi Strauss is attempting a turnaround strategy to remake one of America’s most iconic brands viable once again. Facing competitive pressure from the diem industry and its now many major players, as well as competition from a variety of substitutes for diem wear, the Company hopes to regain its former glory by appealing to its past while looking to the future.

Keywords: brand choice, industrial competition, Levi Strauss
COMPANY HISTORY

Levi Strauss & Company (LS&C) is a privately held company headquartered in San Francisco, California and has been in the clothing business for over a century and a half. The company invented and set the standard for denim jeans, essentially making the brand, Levi’s synonymous with the product.

The Company was started by Levi Strauss, who was born in 1829 in Bavaria. He immigrated to the United States with his mother to join other family members in a dry goods business in New York. At age 24 Strauss moved to San Francisco to open a west coast branch of the family business, hoping to cash in on the Gold Rush. While the dry goods business was relatively successful, Strauss stumbled upon a product line that would make Levi’s a household name in the United States, and later, much of the rest of the world.

With the help of a Reno, Nevada tailor named Jacob Davis, Strauss created a more durable pair of pants. Davis had installed metal rivets at the corners of the pants pockets to strengthen them, and he found the product popular among customers. Realizing that riveted pants might have potential, Strauss provided the money needed to obtain a patent, and the partnership of Strauss and Davis created the "original, authentic jeans" first called the “XX pants,” later to be called 501. The pants and the Company became extremely popular and represented an authentic American experience. LS&C expanded its product line to include shirts, jackets, and other clothing items. Once the only brand in denim, Levi now faces many competitors and has been struggling to recapture its once mighty market position.

LEVI STRAUSS & COMPANY

Levi Strauss & Company is privately owned by the Haas family, decedents of Levi Strauss. LS&C sells its products in over 110 countries. The firm continues to sell its traditional products under the Levi brand and has added the Dockers brand of khaki-type products to its product offerings. LS&C also sells a value-oriented brand called Signature that it markets through mass merchandisers such as Wal-Mart, and more recently added another value-priced line called Denizen. Even with the expanded product line, the Levi brand accounts for 84% of all sales for LS&C. While the company enjoyed enormous success throughout many years of its existence, it has suffered in recent years as competitors have a significantly eroded market share. The company, once the premier supplier of clothing for America's youth has witnessed sizable decreases in sales and earnings over the past few years. While still the largest jeans company in the market, LS&C now faces competitive threats from hundreds of competitors. LS&C faces
competition from lower-priced competitors such as Lee and Wrangler, and more expensive and trendy competitors such as Zara, True Religion, and many others.

Having the dominant position in the industry for many years left LS&C complacent. Brand equity was very strong and acted as a barrier to entry. As far back as 1999, there were indications that the Company was losing its way. In a 1999 *Fortune* article, Nina Munk warned of the decline of LS&C after then CEO Robert Haas used an LBO to put control of the Company in the hands of himself and three other family members. Haas embarked on a campaign for social justice and a mission to prove that a company driven by social values could outperform one driven by profits. Haas made some bold moves such as ceasing to do business in China due to human rights abuses and mandating that decision-making be participative. Munk warned that LS&C was failing to listen to customers and not responding to growing threats of competition. The Company was slow to act and lacked an innovative spirit. While Levi continued to do business as usual and rested on its strong brand equity, competitors were designing new and interesting products that consumers demanded.

Social mission was part of the corporate culture of LS&C before Robert Haas and has continued to present day. LS&C was a pioneer in progressive and equitable employment practices, including diversity and nondiscrimination in employment before it became common. In 1991 the Company created the Global Sourcing and Operating Guidelines that regulated its contractors in areas of worker health and safety, environmental standards, and general employment practices. LS&C has been the recipient of numerous awards in the area of corporate social responsibility, sustainability, worker rights, and HIV/AIDS testing, prevention, and treatment. Sustainability has become a major focus of the Company in recent years. The Company employs a vice-president for social and environmental sustainability and states on its Website that LS&C is “working to build sustainability into everything we do.” As an example, under the Dockers brand, the Company has created a new line of clothing called Wellthread. The clothing line is made to last longer, using more durable materials and reinforced in areas of a garment most likely to wear. The Wellthread line provides greater social and economic benefits to its factory workers in Bangladesh and uses less water and energy to produce the product than standard garment manufacturing. The Wellthread line is considerably more expensive than other LS&C products with pants costing as much as $140, jackets selling for $250, and even T-shirts are at prices around $50. At present, the product line is only sold online and in European stores. LS&C feels that the American market may not yet be ready to pay such a premium for social and environmental sustainability. Sustainability has been of growing interest among consumers and the public-at-large, especially as media attention is direct to
issues of global warming. Denim manufacturing has not traditionally been a very environmentally friendly industry.

In addition to promoting the concept of sustainability, LS&C has embarked on a new promotional campaign titled “Live in Levi’s” in order to associate the brand with the authentic American lifestyle and capture the goodwill of the past. The market and promotional themes have changed over the years, as can be seen in the appendix. Once the clothing of choice of miners and cowboys, Levi’s are now seen as mainstream, especially in the jeans segment of its product offerings.

**CHALLENGES AND RESPONSES**

LS&C faces a number of challenges ahead. Denim sales are growing slowly in the U.S., and it appears that denim may not be as popular among consumers as in the past. Especially in women’s apparel LS&C was slow to respond to trends such as stretch jeans and color jeans. While women make up a large share of the overall jeans market, as can be seen in Figure 1, Levi’s are not capturing its share of the market.

The popularity of substitute products such as yoga pants has also caused declining sales in women’s jeans. Activewear or athleisure which consists of yoga pants and sweat pants are increasingly popular among women. Comfort and fit are two motives, along with others which are driving the increased popularity of these products (see Appendix). LS&C not only has problems in selling adult women’s apparel, the Company has been challenged in appealing to female teens as well.

![Figure 1. Levi’s Lack Of Appeal To Women](http://dx.doi.org/10.21607/jmsm.2017.0003)
Once a clothing staple of both female teens and adult women, denim now appears to be losing its appeal in these important markets. Not only with females, but for the market overall LS&C has been losing revenue to athletic wear companies. Lululemon, the Canadian sportswear company, is a good example of one of the companies capturing the trend towards more active wear in the market. As LS&C profits have declined, Lululemon has soared (Figure 3).

Lululemon sells yoga pants, running apparel, and other “training” apparel to an increasingly active consumer market. The acceptability and versatility of this type of clothing for use beyond the gym have increased in recent years. Americans have for some time been selecting clothing which is comfortable and fits with a more active lifestyle.

![Denim vs. “Athleisure” Brands](source).

Not all is lost for LS&C. The Company has begun a process of increased visibility, product fabric changes, and innovation. In 2011 the Company appointed a new CEO, Chip Bergh, who has pushing for greater innovation, market appeal, and efficiencies in its global supply chain. Bergh moved the innovation center of LS&C back to San Francisco to speed up design and innovation. The center had previously been located in Corlu, Turkey. He instituted “denim bars” in the Company’s retail stores (see Appendix). The denim bars are fitting stations where customers can get help from store employees in determining the proper style and fit of clothing. Competing with online sellers has been a challenge for LS&C, and the denim bars provide a more personal and tailored approach which online retails cannot match. Production has been

http://dx.doi.org/10.21607/jmsm.2017.0003
outsourced to lower wage countries, although wages in some of those countries have begun to rise.

In 2014 LS&C paid $220 million for naming rights for the stadium of the National Football League San Francisco 49ers. The move is an attempt to increase the visibility of the brand and remind consumers that the Company is very much a major player in the market. LS&C has added new products such as the 501CT, a more “stretchy” fabric to its traditional product offerings. In addition, the Company added stretch denim in its 700 line for women. LS&C has partnered with Google to develop clothing which weaves conductive material into the fabric in order to serve dual purpose use such as charging cell phones, collecting biometrics, and easily answering phone calls. The endeavor is called Project Jacquard (see Appendix) and seeks to make clothing more functional in an increasingly wired modern world. In October 2016 Levi Strauss & Company reported its third quarter financial performance. LS&C had an increase in net revenues of 4% primarily as a result in an increase in direct-to-consumer sales.

As Chip Bergh looks towards the future, he faces the challenges of changing consumer tastes and preferences, increased competition, and declining brand equity. While denim sales are growing internationally due to rising incomes in developing countries (mainly India and China) and the globalization of fashion, LS&C faces a stagnant market at home. Where denim sales are growing, there is increased competition from lower-cost products. Once the unchallenged market leader, LS&C must now find a way to maintain relevance in an ever-increasing crowd of competitors and substitute products.
DISCUSSION QUESTIONS

1. Conduct an environmental analysis and a capability analysis of Levi Strauss and Company. What do these analyses tell you about the company?

2. Conduct a Five Forces Model analysis on Levi Strauss and Company. What conclusions can be reached after the analysis?

3. Based on your answers to the above questions what recommendations do you have for Levi Strauss and Company?

REFERENCES


APPENDIX

OLD PROMOTIONAL MESSAGE

NEW PROMOTIONAL MESSAGE
DRIVERS OF ACTIVEWEAR

More than 9 in 10 consumers say they wear their activewear for purposes other than exercise.

DENIM BAR CONCEPT
PROJECT JACQUARD
CASE NOTES
This case looks at the decline of the competitive advantage of Levi Strauss and assesses its potential to craft a viable turnaround strategy in the face of increased competition. Students should find the case interesting as many students are most likely consumers of the products in the industry. The case will be of interest as it shows how fashion changes can greatly influence the success or failure of a company.

TARGET AUDIENCE AND TEACHING STRATEGY FOR THE CASE
This case could be used in a marketing course and perhaps other business courses as well, however, the case is probably best suited for a course in strategic management. The case asks students to do a strategic analysis of the company and thus some prior knowledge of strategic analysis tools are required. The case could be used with different discussion questions to be tailored to meet the needs of the course. The primary audience for the case is an undergraduate strategic management course, however, the case is flexible enough to serve other purposes. The case can be taught in-class or assigned as a group project. It would be helpful to require students to do some additional research into the company, however, the case can stand alone without this additional research. When using the case it is essential that students use the tools of strategic analysis and then base their recommendations on that analysis. The analysis should be thoughtful and analytical and assumptions made by students should be challenged. It should be remembered that there is not necessarily a correct answer to the case questions, however, the depth of analysis will vary making for differing degrees of success in answering the questions.

OBJECTIVES OF THE CASE
The primary objective of the case is to have students develop and demonstrate skills in strategic analysis. Students will need to think about how the market for denim is changing and what role the company will play in the change. Current trends indicate that denim industry in the U.S. is at best stagnant and quickly being replaced by other fabrics. Students should be encouraged to think critically about the strategic direction of Levi Strauss and be able, after conducting a strategic analysis, to make strategic recommendations for the company.

ANALYSIS
The case asks students to answer three discussion questions. Instructors using the case should feel free to add any additional questions they feel are important for their course or to substitute questions which are better suited to meet the needs of the course. While the discussion questions
listed at the end of the case are ones considered important by the authors of the case, they in no way are meant to represent the only way to approach the analysis of the case.

1. Conduct an environmental analysis and a capability analysis of Levi Strauss and Company. What do these analyses tell you about the company?

The environmental analysis, or environmental scanning technique looks at factors found in the larger competitive environment which are effecting now or can influence the future success of a company or industry. A complete environmental analysis helps firms identify the threats and opportunities facing them. The threats and opportunities could relate to one or more sectors of the environment such as economy, demography, politics, technology, social culture, and global and physical environments. Some firms might decide to monitor, forecast the impacts, and even assess the timing and importance of some of identified threats or opportunities. The chart which follows is an analysis for the Company and its industry.

There are changes occurring in the market, demographic changes, and issues of sustainability. The market is shifting away from denim to more comfortable clothing. Designer brands have emerged in the denim industry which changes the market dynamic for LS&C. Additionally, the denim industry has been slow to adopt new fabrics and other innovations. The traditional markets for LS&C are aging and this may not be favorable for the Company. Increased income for women, worldwide, and their increasing preferences for sportswear is an environmental issue that must be addressed. In addition, an increasing concern over sustainability, in an industry not known for being environmentally friendly, has an impact on the operations of LS&C.

ENVIRONMENTAL ANALYSIS

The capabilities analysis is used to identify the special skills and abilities that produce consumer value for the company. The chart which follows provides some suggestions for an analysis of the Company. One generic way is to perform Porter’s value chain analysis. Furthermore, it might be necessary that we perform more than a “chain” analysis. There are important processes and systems underlying the value chain. The analysis below focuses on processes, people, and systems. LS&C decided to outsource production to lower cost countries in order to reduce costs and remain competitive. Outsourcing manufacturing frees up resources which can be better focused to more important elements of the value chain. LS&C established the denim industry and had a first mover advantage for many years. The organization has a talented human asset
base, including a relatively new C.E.O. who recognizes the need for change and is action-oriented. Lastly, LS&C is building innovation in the organization and this innovation, coupled with Google has the potential capability to develop cutting edge technology through the Jacquard Project. The integration of sensors into fabric offers an innovation potential that can give LS&C a competitive advantage.

![Market Dynamics](https://example.com/market_dynamics.png)

**Figure 4. Suggestions for an analysis of the Company**

### CAPABILITY ANALYSIS

The environmental and capability analysis tells us that the industry is changing quite dramatically and LS&C needs to leverage its history and strong brand to adapt to these changes.

### Market Dynamics
- Changing tastes and preferences away from denim
- Increasing willingness to pay for exclusive brands and fashion
- Lack of "newness" in the denim industry

### Demographics
- Aging population in developed markets
- Growing and younger population in developing markets
- Increased purchasing power and decision making for women in the global market

### Sustainability
- Increased interest in environmental issues
- Continued success of "green" companies
- Extensive media coverage of climate change

### PROCESSES
- Outsourcing of production
- Lower investment and costs
- Allows for focus on more important aspects of value chain

### PEOPLE
- Long history in industry
- Skilled employees who know the industry
- New CEO with an action-orientation

### SYSTEMS
- Moved Innovation Center from abroad to company headquarters
- Increased attention placed on innovation
- Major component of mission and skill set is sustainability

**Figure 5. Capability analysis**
2. Conduct a Five Forces Model analysis on Levi Strauss and Company. What conclusions can be reached after the analysis?

The Five forces model of Michael Porter is used to identify the major factors which influence the competitive position of a company or industry. LS&C faces increased rivalry in an increasingly competitive market. The increased rivalry is due in part to the low barriers to entry for the industry and the ability of developing countries such as India and China to manufacture and market denim products. Many substitute products now exist which compete with the traditional products offered by LS&C. Major shifts in fabric preferences must be addressed. Rising wage levels in producing countries shifts some power towards suppliers. With an increasing competitive market power is shifted in favor of buyers. Alternative methods of retailing, most notably online sales, decreases the dominance of traditional LS&C retail outlets. The chart below provides some suggestions for the Company and its industry.

**FIVE FORCES MODEL**

![Five forces model](chart.png)

*Figure 6. Five forces model*
Rivalry

- Ever increasing number of competitors,
- Many competitors viewed as more in tune with current trends,
- Increasing competition from China and India,
- Lower end of the market becoming increasingly price driven.

New Entrants

- Market barriers not especially high,
- Low investment due to ability to contract manufacturer products,
- Increased chance of new entrants from developing countries.

Substitutes

- Increasing substitution of denim for other fabric,
- Increasing popularity of “athleisure”.

Suppliers

- Reliance on foreign contractors for quality and reliability,
- Rising wage levels in source countries.

Buyers

- Increased buyer power due to large number of sellers,
- Increased online selling by competitors shifts power away from LS&C stores.

3. Based on your answers to the above questions what recommendations do you have for Levi Strauss and Company?

Based on the strategic analysis, LS&C has some serious challenges ahead as it tries to reinvent itself in a changing industry. A summary of possible recommendations can be found in the chart and recommendations below.
SYNTHESIS OF ANALYSIS

**COMPETITION**
- Many competitors more in touch with consumer preferences
- Decrease in brand equity relative to competition

**ENVIRONMENTAL TRENDS**
- Denim losing popularity, especially among women and younger consumers
- Increased interest in environmentally friendly products

**INDUSTRY ANALYSIS**
- Increased rivalry
- New entrants
- Increases in substitute products

**CAPABILITIES**
- Innovation Center
- Human capital, experience, distribution channels, sustainability

**SUSTAINABILITY OF COMPETITIVE POSITION**
- Not favorable without significant change in strategic direction

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**RECOMMENDATIONS FOR LS&C:**

- Grow niche for environmentally friendly product lines,
- Develop different brands for different consumer groups,
- Use Innovation Center to create products more favorable to female and younger consumers using design, fabric, and possibly “wearable technologies”,
- Develop concentric diversification into athletic and active-wear products.
THE REAL REASONS WHY ORGANIZATIONS FAIL

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Abstract
This descriptive study is an investigation in the literature as to why organizations fail. Some of those reasons for closure are lack of cash flow, lack of job satisfaction, internal weakness and external factors, errors, lack of ethics, fallibility, flaw, inertia, and mistakes. Companies also fail because of organizational misalignments, lack of productivity and older firms, entrepreneurial innovation versus leadership, the Peter Principle, as well as other key variables. This article reviews the theoretical basis for understanding strategy implementation, a key part of the strategic management process, and corporate success. The reader who follows the strategic guidelines discussed and summarized herein will be better prepared to cope with some of the signs of an impending organizational failure.

Keywords: decline, failure, strategy implementation, success
INTRODUCTION

This article is a descriptive report which consists of a collection of research studies about why organizations fail. Because this study uses no control groups to compare outcomes, this critique has no statistical validity.

The new business setting—overcoming organizational failure, as it pertains to strategic management, requires new forms of managerial thinking and organizational structures, global mindsets, considerable strategic and structural flexibility, and innovative methods for implementing strategies. A scientific reawakening will bring about the rise of new industries, change how businesses compete, and possibly transform how companies are managed (Pascale, Millemann, Gioja, 2000).

Business leaders know that plans made in the past are unlikely to be implemented (Bozeman, Straussman, 1980). Therefore, business strategy has entered the aptly named market-driven era because of its central focus on the market as the basis for strategy design and implementation (Cravens et al., 1998; Day, 1994).

This researcher operationally defines implementation as those senior-level leadership behaviors and activities that will transform a working plan into a concrete reality (e.g., implementation of the strategy). This academician further defines organizational success as the achievement or accomplishment of the specific objectives set by the organization, organizational failure as the barriers that block strategy implementation, and organizational barriers as those things that, if ignored, will make it difficult or impossible to implement the strategy (Knorr, 1993).

REVIEW OF LITERATURE: WHY ORGANIZATIONS FAIL

In order to understand why organizations fail, this researcher has reviewed the work of many scholars over the past 20 years. He compiled the following list of reasons why organizations go out of business from this research. The following is a record of some of the real reasons why organizations possibly go out of business.
Understanding Organizational Failure

Lack of Cash Flow

According to Hisrich et al. (2009), business failure occurs when income decreases and/or expenses increase, leading to insolvency of the company and restricting the possibilities of attracting debt financing or net equity. These authors further point out that business discontinuity is common in entrepreneurial companies because they are based on innovation, which leads to uncertainty and oscillating conditions (Minello et al., 2014, p. 6).

In one of the best written papers on why businesses fail, Bhandari (2014) used cash flow statements (CFS)—cash inadequacy (resulting in a default on debt obligations as the main reason for business collapse or bankruptcy)—as a key factor in understanding why organizations go out of business. Bhandari and Iyer (2013, p. 668) justified the importance of cash flow as:

Ever since the accrual accounting system was adopted for recording and reporting business transactions, balance sheets and income statements were the main source of information for academics, analysts, and investors for their research and decision-making purposes. The importance of cash flow, though intuitive, was not realized until the accounting regulators and textbook book authors started emphasizing CFS. The “Cash is King” phrase is now widely understood and respected. Obviously, because cash is what buys things, pays wages and salaries; services and pays the debt; and compensates stockholders (owners)—not accounting income! Inadequate cash can lead to default on accrued payables and ultimate bankruptcy. The most important and useful information in CFS is operating cash flow (OCF). A business is supposed to operate profitably and generate cash. OCF is that number!

Lack of Job Satisfaction

Lizano et al. (2014, p. 1599) showed that job satisfaction, defined according to the hours worked and flextime; wages and other non-wage compensation; job security, training, promotion chances; and social dialogue reduces the failure rate of the business sector. As such, employers need to control the firm-employee relationship as a useful tool to achieve the commitment of future collaborations that avoid business failure.
Internal Weakness and External Factors

In Corporate Failure by Design: Why Organizations are Built to Fail, Klein (2000), who won the Horace dePodwin Award for research excellence at Rutgers University, mentions the key elements of organizational failure. He says the problem with today’s corporations is that they are built to fail.

Further, Klein (2000) argues that organizations are undermined by the things they do in order to exist. He further hypothesizes that organizations are not succeeding because they are not doing their jobs, suggesting that it is easy for them to fail because success factors are few. He also emphasizes the general lack of strategic business planning. Klein (2000) suggests that an organization does business a particular way more because of the decision makers’ preferences than the needs of the organization and that consequently, the ultimate breakdown is the failure to link the ways in which things are done in the organization with the strategy or official goals pursued.

Panicker and Manimala (2015, pp. 21-23) performed an attention-grabbing study about successful business turnarounds. These researchers found that the primary cause of organizational decline is the internal weakness of the organization. They also found that organizational decline is caused by multiple factors (e.g., weakness in functional areas and external factors beyond management’s their control, such as demographic changes, economic conditions, natural calamities, technological developments, social norms and customs, and political systems).

Ethics, Errors, Fallibility, Flaws, Inertia, and Mistakes

Business failure, as summarized by Dotlich and Cairo (2003), Finkelstein (2007), and Singh et al. (2007) is connected to the manager’s decisions and behaviors, and the way he or she conducts the enterprise. Therefore, the entrepreneurial features that influence behavior and competencies of the manager appear to be very closely linked, and this reverberates into the organization’s behavior (Minello et al., 2014, p.2).

Rossy (2011, p. 35) writes that ethical failures (Enron, Tyco, Arthur Anderson), where key players from the organization were acting with malicious intent, should have been expected. Such events have been common throughout history and have been at the root of some the greatest business failures of the last 25 years.
VanRooij (2015, p. 203) studied three companies (Nokia, Baan, and LG) and searched for the real causes of closures in these businesses. He found that fallibility, error, and flaw were the key reasons why these firms failed.

Rothaermel (2015, p. 346) states that inertia, a firm’s resistance to change the status quo, can set the stage for the firm’s subsequent failure. Successful firms often plant the seed of subsequent failure by optimizing their organizational structure to the current situation so that that tightly coupled system can break apart when internal or external pressures occur—resisting to change. Such a tightly coupled system is prone to break when external and internal shifts put pressure on the system (Finkelstein, 2003).

Krogerus and Tschäppeler (2008, p. 86), The Decision Book: 50 Models for Strategic Thinking, state that “Everyone makes mistakes. Some people learn from them, while others repeat them, which can cause organization demise.” There are different types of mistakes:

- Real mistakes—occur when the wrong process is carried out
- Black-outs—occur when part of a process is forgotten
- Slip-ups—occur when the right process is carried out incorrectly
- There are various levels on which mistakes occur:
  - Skill-based level
  - Rule-based level
  - Knowledge-based level
- And there are various factors that contribute to mistakes occurring:
  - People involved—boss, team, colleagues, and friends
  - Technical provisions—equipment, workplace
  - Organizational elements—task to be fulfilled, timing
  - Outside influences—time, economic climate, mood, weather.
- Organizational Misalignments

Heracleous and Werres (2016, p. 491), who conducted in-depth case studies of two American conglomerates (e.g., WorldCom and Nortel Networks), found that organizational misalignments develop and spread, which ultimately foster a large gap between the demands of the competitive environment and the organization’s strategy and competencies, which leads to corporate failure. They further found that the process begins with dysfunctional leadership and
ineffective corporate governance, moves to unduly risky strategic actions, and is then followed by lax execution.

**Lack of Productivity and Older Firms**

He and Yang (2016, p. 72) concluded that less productive and older firms are more likely to fail, while firms with governmental support are more likely to survive. Further, competition dominates learning effects and imposes challenges on the survival of older firms. There is an inverted U-shaped relationship between firm age and firm failure.

Johnson (2017, p. 13) wrote this fascinating story of why organizations continue to fail: Somewhere between the tenth and fifteenth year, this San Diego-based organization, and its affiliates, lost sight of the original vision. The founding leaders had moved on to other things, and a new management team had taken over. The company became institutionalized. It was still effective, but not growing as the focus changed from excellence in customer service to maintain the organization. In its earlier existence, the company was able to win contracts based on technical skill and a reputation for excellence, it now had to rely on being the lowest bidder.

The company had lost its direction. Customer loyalty had ceased as products and services were reduced in both quantity and quality. Employee morale dropped, overhead increased, and profit margins sunk.

By its twentieth birthday, the organization ceased to exist. It wasn’t sudden, it just began to fade away and employees scattered to other places. The organization that begun with so much energy and hope had been merged, sold, and resold until it lost its focus, identity, and purpose.

**Entrepreneurial Innovation versus Leadership**

Turner-Wilson (2016, pp. 5-6) stated in her book, WOOF: Why Ordinary Organizations Fail, that: Seventy percent of startup businesses fail within the first 10 years. It’s devastating reality, especially since most of those startups are a small business, which generates more than half of domestic sales in the U.S.

More often than not, these failures are caused by a lack of solid management abilities. Ironically, the very qualities that inspire more entrepreneurs to take a risk and start a new business can work against them when it comes to actually leading that business day-to-day because there are inherent differences between entrepreneurs and leaders.

Entrepreneurs are visionaries and innovators, but they may tire when it comes to execution. Entrepreneurs tend to favor the newest strategy instead of a tried-and-true strategy
since they are more comfortable with risk. While they don’t enjoy executing day-to-day tasks, they may struggle in effectively delegating those responsibilities to others as well. Too many businesses fail simply due to a lack of balance between entrepreneurial innovation and leadership.

**The Peter Principle**

Laurence J. Peter, Ed.D., a sociologist after whom the principle is named, was a specialist in the area of hierarchical incompetence and wrote nine books on this controversial topic. His first book, The Peter Principle—Why Things Always Go Wrong, introduced the Peter Principle to the world. He theorized that in a hierarchy (e.g., any/every type of organization): “Every employee tends to rise to his level of incompetence” (Peter, 1969). Further, his view was that one will advance to one’s highest level of competence and consequently get promoted to a position where one will be inept. The book contains many real-world examples and thought-provoking explanations of human behavior, including: “Every organization contained a number of persons who could not do their jobs and that occupational incompetence is everywhere” (Peter, 1969, p. 20).

Peter (1969, p. 24) said, from a definitional standpoint, that as employees move upward through the pecking order and/or chain of command, they do worse, as managers, than they did before having been promoted. And this phenomenon is not limited in scope: “Sooner or later, this could happen to every employee in every hierarchy—business, industry, trade-unions, politics, government, armed forces, religion, and education” (Peter, 1969, p. 24).

Schaap and Ogulinck (2009) accepted as true that the Peter Principle (1969) is still thriving—it is not in decline. It is flourishing at least in the general business/management world. They found that 74 percent of the people they studied believe that it is still flourishing, and 73 percent of these same participants alluded to the fact that they have seen this situation happen within the last five years.

**Other Key Variables of Organizational Decline**

A survey of 93 Fortune 500 United States firms revealed that over half of the corporations experienced the following 10 problems, listed in order of frequency, when they attempted to implement, from a leadership behavior perspective, a strategic change (Alexander, 1991, pp. 73-113):
• Implementation took more time than originally planned.
• Unanticipated major problems arose.
• Activities were ineffectively coordinated.
• Competing activities and crises took attention away from implementation.
• The involved employees had insufficient capabilities to perform their jobs.
• Lower-level employees were inadequately trained.
• Uncontrollable external environmental factors created problems.
• Departmental managers provided inadequate leadership and direction.
• Key implementation tasks and activities were poorly defined.
• The information system inadequately monitored activities.

Klein (2000, pp. xv–xvi) mentions the key elements of organizational failure: One reason why organizations fail is that it is easy to fail. As Aristotle observed, “It is possible to fail in many ways … while to succeed is possible only in one way (for which reason also one is easy and the other difficult—to miss the mark easy, to hit it difficult).”

Organizations fail in large numbers. They fail from a human resource perspective. They fail, still seemingly, from nonmanagerial issues, such as inadequate accounting systems, lack of reasonable cash/finance management, inability to cope with growth, and most of all, a lack of strategic business planning [my favorite].

Another reason why organizations fail, said Klein (2000, p. xvii), especially from a management standpoint, is that management itself causes organization demise. In the language of social science, as a result, the process of organizing is a self-limiting one, one that initiates the very forces that undermine it. In the practical parlance, this suggests that organizations are built to fail. Management mistakes cited include inappropriate motives for entrepreneurship, disdain for the procedure, underestimation of resource needs, insensitivity to the environment, infatuation with the product, and unrealistic projections of the future.

It is alleged that up to 70 percent of the strategic change initiatives fail (Higgs, Rowland, 2005). They fail because senior-level leaders do not make a realistic assessment of whether the organization can execute the plan (Bossidy, Charan, 2002). Meanwhile, research suggests, from a strategic planning standpoint, that adopting and implementing the right practices are essential to attaining outstanding performance (Brown, Squire, Blackmon 2007; Laugen et al., 2005). Still, without an actual sound and aligned implementation process, even the most superior
strategy is useless—another reason why organizations fail. Rightly so, as in the dynamic, hypercompetitive environment of today, savvy executives must realize that strategy implementation is just as critical as the development of effective strategies (Pryor et al., 2007).

Panicker and Manimala (2015, p. 30) also found other key variables for causes of organizational decline:

- Ambitious expansion
- High cost of debt due to escalation of projects
- High-debt to equity ratio
- Poor marketing strategy
- Incompetent management
- Obsolete technology
- High non-performing assets
- Poor capital
- Operating inefficiency
- Large investment in new product line
- Inefficient workers
- Poor market demand
- Low-capacity utilization
- Low sales turnover
- Drop in exports
- Delay in projects
- Heavily overstaffed
- Huge stock of inventory
- Lack of liquidity
- Improper utilization of funds
- Lack of market orientation
- High input cost
• High interest rate
• Market recession and lack of demand
• Government constraints.

In his book, Why Organizations Fail, Ivanov (2017, p. 4), states Organizations, worldwide, … treat employees like commodities, generate general suspicion and mistrust, undermining self-esteem, generate conflict over compensation and in interpersonal relationships, cause unnecessary suffering for employees and their families, undermine the good society, and withal, reduce the potential productivity and effectiveness of even the best companies to 50% of what they might achieve.

Organizations also fail because of catastrophic malfunctions in structure. These malfunctions are difficult to notice because of time delay in organizational cause and effect. Time flows differently in organizations than in the physical world. For example, when a ship sails or a rocket is launched, it is easier to see the cause and effect within days/months or minutes/seconds. When the CEO of a large corporation makes a decision, the effects are often not clear for years or even generations from when the decision was made.

UNDERSTANDING STRATEGY IMPLEMENTATION AND CORPORATE SUCCESS

As a way to overcome organizational failure, this researcher studied the conceptual framework, from well-known scholars, for understanding corporate success.

Schaap, Stedham, and Yamamura (2008) looked at the results from a study of how men used financial rewards as motivators for effective strategy implementation whereas woman did not. Similarly, men were more likely than women to believe that increased personal involvement and increased personal communication were needed to ensure greater success.

Starting in the early 1980s, several frameworks have been developed that are largely conceptual and/or descriptive (Okumus, 2001). For example, Pressman’s and Wildavsky’s (1984) typology of evaluating implementation, while over 20 years old, still provides a useful perspective on the differences and complexity of ensuring successful strategy implementation; it also is significant because it portrays a struggle over the realization of ideas. It was selected for this study because it addresses an implementer’s clear-cut guide to effectively implementing a strategy, thereby possibly overcoming organizational failure, by emphasizing the answers to five basic questions: (1) When? (2) Where? (3) For whom? (4) What? (5) Why?
Overcoming organizational failure requires strategic change: (1) Establishing a sense of urgency, (2) creating the guiding coalition, (3) developing a vision and strategy, (4) communicating the change vision, (5) empowering board-based action, (6) generating short-term wins, (7) consolidating gains and producing more change, and (8) anchoring new approaches in the culture (Kotter, 1996, p. 21).

When looking at the different strategy implementation models, especially as they apply to preventing organizational collapse, this researcher concludes that the nine-step theoretical model developed by Thompson, Gamble, and Strickland (2006, p. 231) truly extends the literature in this field of study. The nine steps are:

- Staffing the organization with the needed skills and expertise, consciously building and strengthening strategy-supportive competencies and competitive capabilities, and organizing the work effort.
- Creating a company culture and work climate conducive to successful strategy implementation and execution.
- Developing budgets that steer ample resources into those activities critical to strategic success.
- Ensuring that policies and operating procedures facilitate rather than impede effective execution.
- Using the best-known practices to perform core business activities and pushing for continuous improvement. Organization units have to periodically reassess how things are being done and diligently pursue useful changes and improvements.
- Installing information and operating systems that enable company personnel to better carry out their strategic roles day in and day out.
- Motivating people to pursue the target objectives energetically and, if need be, modifying their duties and job behavior to better fit the requirements of successful strategy execution.
- Tying rewards and incentives directly to the achievement of performance objectives and good strategy execution.
- Exerting the internal leadership needed to drive implementation forward and keep improving on how the strategy is being executed. When stumbling blocks or weaknesses are encountered, management has to see that they are addressed and rectified on a timely basis.

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Overcoming organizational collapse is no easy task. Panicker and Manimala (2015, p. 33) have developed this laundry list of strategic factors that they say can prevent business stoppage:

- Employee engagement
- Incentives to employees
- Motivating employees
- Culture building
- Aggressive promotion of old products in new markets
- Transition from sellers’ market to buyers’ market
- Focus on promotional strategies
- Cost management strategies
- Reduction in cost of funds
- Cost cutting
- Reduction in raw material costs
- Investments in new markets and R&D
- Entering new markets
- Efficiency measures for operations
- Focus on core business
- Changes in product mix and pricing
- Aggressive pricing
- Reassessment of product mix
- Lean management
- Reduction in assets
- Enhance shareholders value
- Debt restructuring
- Restructuring the organization
- Efficiency in short-term financing
CONCLUSION AND RECOMMENDATION

Galagan (1997) stressed that tailoring every facet of the business to support the strategy, using qualitative analysis as well as financial analysis to measure results, and making strategy implementation is part of the senior-level leader’s job. According to this researcher, senior-level leaders often invest in week-long retreats, extensive marketing research, and expensive outside consulting services when trying to develop the strategic plans that will lead their companies to a successful future (i.e., as opposed to organizational failure). Unfortunately, many of these plans do not come to fruition because of inadequate design or poor implementation of the strategic plan. Still, successful senior-level leaders get on with the implementation process. They are the achievers, the action takers; they are not necessarily impetuous, but they do not wait until they have recognized every potential unforeseen event before beginning to take action (Hardy, 1994).

Strategic decisions are formulated by senior-level leaders of the firm and then administratively imposed on lower-level management and/or non-management employees with little consideration of the resulting functional-level perceptions (Nutt, 1987). If, however, lower-level management and/or non-management personnel are not aware of the same information, or if information must pass through several (management) layers in the organization, consensus and consistency of that information may never come to fruition, which can also lead to organizational failure. In the end, this lack of shared knowledge with lower-level management and/or non-management employees creates stumbling blocks to successful strategy implementation (Dess, 1987; Noble, 1999).

As noted by Bossidy and Charan (2002, p. 5), execution is the great unaddressed issue in the business world today. Its absence is the single biggest obstruction to success and cause of most of the disappointments that are mistakenly attributed to other causes. Without execution, the chance of organizational failure is high.

Rothaermel (2015, p. 4) states that the theory of strategy, a key characteristic within the framework of strategic management, can gain and sustain the firm a competitive advantage as well as achieve superior performance. A good strategy consists of three elements:

- A diagnosis of the competitive challenge. This element is accomplished through strategy analysis of the firm’s external and internal environments.
A guiding policy to address the competitive challenge. This element is accomplished through strategy formulation, resulting in the firm’s corporate, business, and functional strategies.

A set of coherent actions to implement the firm’s guiding policy. This element is accomplished through strategy implementation (Rumelt, 2011).

Ivanov (2017, p. 19), like other scholars who have researched the discipline of strategic management, recommends that organizations be more strategic about the division of labor so that employees are assigned tasks one level below the tasks of their supervisors.

And finally, this researcher is convinced, having explored the notion of strategic management extensively, that the reader who follows the strategic guidelines developed by Gamble (Gamble, Peteraf, Thompson, 2015, p. 14) will overcome the chances of organizational failure. And if the reader strictly adheres to the managerial process of crafting and executing a company’s strategy on an ongoing basis (see below), organizational success will certainly be achieved:

- Develop a strategic vision that charts the company’s long-term direction, a mission statement that describes the company’s business, and a set of core values to guide the pursuit of the strategic vision and mission.
- Set objectives for measuring the company’s performance and tracking its progress in moving in the intended long-term direction.
- Craft a strategy for advancing the company along the path to management’s envisioned future and achieving its performance objectives.
- Implement and execute the chosen strategy efficiently and effectively.
- Evaluate and analyze the external environment and company’s internal situation and performance to identify corrective adjustments that are needed in the company’s long-term direction, objectives, strategy, or approach to strategy execution.

LIMITATIONS OF THE STUDY

The reader of this article must consider the limitations of this report. No independent research study was performed. This was just an observational review of Sartell’s work that was published in the Journal of Marketing and Strategic Management in June 2016, Issue 10. After reviewing Sartell’s article this researcher decided to pursue a descriptive study so that the reader could better understand the real reasons why organizations fail.
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ANALYSIS OF THE MARKET ORIENTATION OF HIGH-TECHNOLOGY FIRMS IN THE SECOND SILICON VALLEY - DALLAS/FT. WORTH METROPLEX

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Abstract  
This is an empirical study on the market orientation of Hi-Tech firms located in the second Silicon Valley of the USA. The state of Texas has been consistently ranked as “the second largest technology state” in the annual American Electronics Association (AeA) Cyberstates Report (2017). This report shows the yearly trends among the United States high technology sectors. Texas ranked behind California regarding the location of Hi-Tech companies. Dallas is one of the largest high technology cities in Texas according to the AeA Cyberstates Report (2017). 776 companies were sent Markor Test by mail and fax, and 117 of them completed the survey of which 95 of them were deemed to be usable.

The most interesting finding is that Market Orientation has a negative relationship with Business Performance. It is this finding that distinguishes this research from most of the research that has come before it. Many other empirical studies, such as Kohli and Jaworski (1993), and Narver and Slater (1990), have described a positive relationship between these two variables. However, the high technology industry is different from many other industries due to its’ extreme competition, market turbulence, and technological turbulence. The results of the study also reiterate Kohli and Jaworski’s (1993) consequences of market orientation.

Keywords: business performance, high-technology firms, market orientation
INTRODUCTION

There has been an extensive amount of research on orientation strategies. Marketing professionals are constantly struggling with the pros and cons of each strategy in hopes that they will choose the most effective form for their organizations. Marketing literature groups them under the following categories: competitor-focused, product orientation, selling orientation and market orientation (Noble and Associates 2002; Morgan and Strong 1997; Day and Wensley 1983).

Competitor-focused orientation views “customers as the ultimate “prize” gained at the expense of rivals in many ways other than by simply offering a better match of products to customer needs” (Day and Wensley 1983). This strategic orientation also looks to overcome their competitors in fields such as distribution, lower costs and preferential treatment by suppliers (Day and Wensley 1983). A competitor-focused strategic orientation can often lend itself to better innovation within an organization. Since the main focus of competitor-focused orientation is, in fact, competitors, it is natural that this could lead an organization to constantly strive to develop more sophisticated and better products (Day and Wensley 1983; Gatignon and Xuereb 1997). While a competitor-orientation can be good for innovation, Gatignon and Xuereb stress that it should be “de-emphasized in highly uncertain markets” (1997).

Another popular strategic orientation is product orientation. Producing a good with little or no prior market research in the hope that it will find a market with customers. The idea of product orientation is for a business to emphasize technology and minimize the costs associated with production. Customer preference is often ignored using this strategy. These businesses tend to mass produce their goods without much customer interaction at all. Quality is often an issue as well since the organization focuses so intently on cost minimization (Noble and Associates 2002).

A selling orientation is “based on the firm’s assumption that consumers will purchase more when subjected to aggressive sales techniques and marketing efforts” (Noble and Associates 2002). While this approach often gets a customer’s attention, it has little long-term effects. In other words, a selling orientation focuses more on short-term sales rather than long-term customer relationships. It does not promote customer loyalty and can be very costly. The approach is mainly based on “the premise that customer hesitancy toward purchase can overcome through marketing pressures” (Noble and Associates 2002).
MARKET ORIENTATION

Although the terms “market orientation” and “marketing concept” have only been in use since the 1950s, the idea of a customer-focused business unit was first discussed by Adam Smith as far back as the 1700s. The practices of marketing and some other elements of modern business can be traced back even further. However, throughout the past four decades, the idea of market orientation has become more commonplace thanks to the developing body of research associated with it (Heiens 2000, Dalgic 1998). Around the 1960s, companies began to give their marketing departments more power and funding to gain an advantage over their competitors. Considered the first market oriented company, General Electric decided, in 1952, that their new marketing philosophy was to integrate marketing personnel into each phase of the business cycle instead of at the end of a project (Dalgic, 1998).

Despite the popularity customer-focused marketing was having, market orientation saw no empirical studies until the 1990s (Dalgic 1998). In 1993, Kohli et al. developed a procedure for effectively measuring the market orientation of a company. This methodology, called MARKOR, is used in combination with a survey to gauge three things:

(1) The degree to which an SBU “engages in multi-department market intelligence generation activities”

(2) The degree to which an SBU “disseminates this intelligence vertically and horizontally through both formal and informal channels.”

(3) The degree to which an SBU “develops and implements marketing programs on the basis of intelligence generated” (p. 473).

The marketing concept is “a corporate state of mind that insists on the integration and coordination of all the marketing functions which, in turn, are melded with all other corporate functions, for the basic purpose of producing maximum long-range corporate profits” (Felton 1959). There are as many definitions of the term “marketing concept” as there are marketing strategies. However, Kohli and Jaworski (1990) point out that “three core themes or ‘pillars’ underlie these ad-hoc definitions: (1) customer focus, (2) coordinated marketing, and (3) profitability” (p.3). Therefore, a company is market oriented if these three pillars of the marketing concept are used daily. There is a wide array of definitions for the term market orientation. We will from this point forward use the following definition proposed by Kohli and Jaworski (1990) “market orientation is the organization-wide generation of market intelligence about current and future customer needs, dissemination of the intelligence across departments, and organization-wide responsiveness to it” (p. 6). This is what the MARKOR scale is set up

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to measure. Essentially, a market oriented firm is one that allows the customers’ wants and needs to drive all the firm’s strategic decisions.

Since customer wants and needs are constantly evolving, it is difficult to track these changes in consumer preferences over time. Becoming market oriented is a difficult task, and the benefits of this strategy should be weighed alongside the shortcomings. This statement especially true in rapidly changing industries such as the high-technology industry. We will discuss this at length later. However “there seems to be a lack of consensus among informed scholars about the importance of a market orientation for high-technology firms.” (Luca, Verona, and Vicari 2010).

ANTECEDENTS AND CONSEQUENCES OF MARKET ORIENTATION
A major component of being market oriented is making the entire business unit aware of and an active participant in the daily marketing activities. Without this organization-wide responsiveness, a company cannot effectively be market oriented. Every level of the business unit must be involved in the marketing activities to obtain the maximum marketing benefits (Kohli & Jaworski 1990). The term “market intelligence” is a two-fold idea. Not only must a business unit be aware of customer needs and preferences, but it must also take into consideration external factors that may help or inhibit market orientation (Kohli & Jaworski 1990). These external factors can include any of the following: government regulations, market turbulence, competitive intensity and technological turbulence. As shown below in Figure 1 taken from Kohli and Jaworski (1993), there are many antecedents and consequences of market orientation.

The main three antecedents that Kohli and Jaworski (1993) explain are top management, interdepartmental dynamics, and organizational systems. Top management plays an important role in determining a company’s strategic direction. If top managers stress the benefits and importance of responding to customer wants and needs, then the organization will become more market oriented. Conversely, if top management does not place any emphasis on customer preference, the organization is not likely to be market oriented. Also, if top management is risk averse, it is less likely that lower-level managers will introduce new plans based on customer preference. This is because adverse risk managers tend to respond poorly to failures, so subordinates are less likely to propose new offerings.
Figure 1. Antecedents and Consequences of Market Orientation

The second set of antecedents that Kohli and Jaworski (1993) mention has to do with interdepartmental conflict, or the “tension among departments arising from the incompatibility of actual or desired responses” (p. 56). Interdepartmental conflict hinders communication throughout the various departments of an organization. Interdepartmental conflict ultimately destroys market intelligence dissemination because information cannot be readily communicated throughout the entire company. As stated earlier, it is very important for all departments to be involved in the market orientation process. Conversely, the more connected a company’s departments are, the more efficiently these departments can relay information to and from one another (Kohli and Jaworski 1993; Cronbach and Associates 1981; Deshpande and Zaltman 1982; Patton 1978).

The third, and last, set of antecedents that Kohli and Jaworski (1993) explore pertains to organizational systems. Formalization is the extent to which company rules define roles and relationships within the organization. Kohli and Jaworski (1993) define centralization as “the inverse of the amount of delegation of decision-making authority throughout an organization and the extent of participation by organizational members in decision-making” (p. 56). Both formalization and centralization have an inverse relationship with the organization’s responsiveness. The more rigid a company’s rules and regulations on its employees, the lower the intelligence generation, dissemination, and responsiveness. “Departmentalization refers to the number of departments into which organizational activities are segregated” (Kohli and Jaworski 1993). Departmentalization hinders intelligence dissemination because it is a barrier to communication (Lundstrom 1976; Levitt 1969; Kohli and Jaworski 1993). Lastly, reward systems are said to be instrumental in determining whether an organization will be market oriented. If employees rewarded for short-term instead of long-term progress, it is less likely
that these employees will focus on customer wants and needs. Instead, they will be consumed with short-term profitability and sales. Whereas, employees that rewarded for long-term progress, are more likely to focus on customer satisfaction and retention (Webster 1988; Kohli and Jaworski 1993).

Kohli and Jaworski (1993) also reveal the consequences of being market oriented. The consequence that most often cited is that market orientation leads to business profitability. The idea behind this is that if an organization focuses on its customer wants and needs, the customers will be better satisfied by the company’s products. Therefore, the company will perform at a higher level than its competitors that choose not to take into account customer preferences. This consequence of market orientation was empirically tested by Narver and Slater (1990). Lusch and Laczniak (1987) also give some support to this idea, as do many other professionals in the market orientation field today. However, there are few empirical studies that focus on the high technology industry. The high technology industry proves to be a very different case due to the rapidly changing environment that surrounds the industry as a whole.

Another direct consequence of market orientation increased employee organizational commitment and esprit de corps. This is derived from the fact that market orientation involves all aspects and departments of an organization. This collaboration of departments is said to give a sense of belonging to the employees. As a result of this, the employees are thought to contribute more to the company and feel a sense of belonging to the organization.

The last set of consequences that Kohli and Jaworski (1993) present are environmental characteristics. Companies in more competitive environments tend to be more market oriented. When there is high competition within an industry, customers have more options to choose. Therefore, companies must focus more intently on customer preferences and become more market orientated to capture enough market share to be profitable. Organizations that operate in turbulent markets are also more likely to be market orientated. In turbulent industries, consumer preferences change rapidly, and companies must monitor these changes closely so they can cater to these constantly changing conditions. However, organizations that operate in industries characterized by high technological turbulence are thought to be less market orientated. In markets where technology changes rapidly, companies may be able to obtain a competitive advantage through innovation. This can diminish the importance of a market orientation since these innovations have little to do with customer preferences. Instead, these companies are operating by introducing new products or services that have yet to be evaluated by the customer. These three environmental factors are very important to keep in mind as we explore the market orientation of Dallas and Ft. Worth’s technological firms.
HIGH-TECHNOLOGY PRODUCTS and HYPOTHESIS DEVELOPMENT

High-technology products continue to be prominent in society today. In 2003, high-technology firms held five of the top ten global brands. The five high-tech companies to hold this honor were Microsoft, IBM, GE, Intel, and Nokia. Companies in every industry use high-technology products in their everyday operations. For example, “service industries must have a technology infrastructure to track customer relationships, retailers must have an e-commerce infrastructure to compete effectively, and even rather staid, traditional manufacturing industries must rely on technological innovations as well as e-business practices to stay abreast of market trends” (Mohr and Shooshtari 2003). Mohr (2001) describes high-technology products as being characterized by the following:

1. A high degree of market uncertainty
2. A high degree of technological uncertainty
3. A high degree of competitive volatility
4. High research and development expenditures
5. Rapid obsolescence of products
6. The presence of network externalities

These properties tend to make the technological industry very uncertain (in forecasting, sales revenues, product functionality, product popularity, product life span, etc.) and very competitive.

Marketing high-technology products have become a thriving industry in the United States and many other countries around the world. Technology has created an endless line of products due to the programmability of many of the existing products. The products companies invent today are readily being copied by their competitors. Some argue that this causes technological firms to be less customer-focused since they must stay ahead of their competitors with innovations (Martin 1995, p. 123; Meredith 2002 p. 59). With the competition in the high technology industry becoming worse every day, it is important for the industry leaders to stay one step ahead of their competitors. Since their customers cannot foresee innovations, high technology companies are often forced to ignore customer preferences to stay ahead of the industry curve. Moriarty and Kosnik (1989) give the following five recommendations for high-technology marketing success:

(1) Broadening and deepening the skill set
(2) Abandoning knowledge that has lost its relevance

(3) Building Cross-Functional Collaboration and Communication

(4) Using inter-firm alliances effectively

(5) Focusing on fundamentals to provide continuity in change (Dalgic and van der Weijden 2015).

The market orientation environmental consequences set forth by Kohli and Jaworski (1990) are important to consider in technological firms. As mentioned earlier, industries characterized by constant market turbulence and high competition tend to be more market oriented. However, as technological turbulence in the industry rises, the importance of market orientation diminishes. This is due in part to the idea that customers are not involved in the innovation process. In fact, listening too intently to customer preferences in a technologically turbulent industry may dampen your innovativeness. It is important to remember that customer do not always know what they want, especially if it has not been invented yet. Top management, often focusing on customer preference and loyalty, can hinder the innovative process as well if they are too narrowly focused on the consumer. Based on these observations, I propose the following hypothesis:

H1a: Top Management does not play a distinct role in the market orientation of high-tech firms.

H1b: High-technology organizations are less market oriented based upon the presence of heavy competition and high market turbulence.

High-technology companies have learned how to adapt themselves to their environment and market themselves effectively. As Moriarty and Kosnik (1989) point out, “paradoxically, they have discovered that focusing on marketing fundamentals is one of the best ways to provide continuity in change so crucial to the long-term success of people and organizations” (p. 11). The negative effects of market orientation in high-technology organizations are explored in many academic papers (Frosch 1996; Leonard-Barton and Doyle 1996; Workman 1993). It has been said that firms should “ignore your customers” while developing breakthrough innovations (Martin 1995, p.123; Zhou and Associates 2005). This leads us to our next hypothesis:

H2: Market orientation hinders higher business performance among high-technology firms.
SAMPLE

The Dallas/Ft.Worth Metroplex (DFW) is known as the capital of high-technology in the Southwest. The Metroplex has been dubbed the “Silicon Prairie” and it is known as one of the nation’s largest high-technology employment centers. A northern suburb of Dallas, Richardson, Texas is home to the Telecom Corridor.

“The Telecom Corridor contains approximately 70,000 day-time workers, nearly 25,000,000 square feet of high tech work space and 1,500 acres of land available for future development. The North Dallas Council of Governments projects that by the year 2010 the Telecom Corridor will add 40,000 jobs and be the second largest employment center in the DFW Metroplex behind only downtown Dallas” (Hook Partners).

Since the DFW Metroplex has such a plethora of technological firms, it is an ideal environment to survey for high-technology market orientation.

METHODOLOGY

The survey was conducted over the course of several months. E-mails and faxes were sent to 716 businesses in the DFW Metroplex asking them to complete our survey on market orientation. We chose all the companies that were available to contact in the “Greater Dallas Chamber of Commerce Technology Guide for our survey. This sample was as random as was possible for our purposes. Of the 716 companies contacted, 117 answered questions on the survey and 95 companies completed the entire survey. The twenty-one companies that did not complete the survey were taken into account when analyzing the responses. The statistical analysis of the responses can be seen in Appendix B. Questions with a high mean scale, and a relatively low standard deviation is the most strongly linked to the market orientation of the companies that responded.

EMPIRICAL ANALYSIS

Our results show many interesting characteristics of the high technology organizations in Dallas and Fort Worth. We analyzed the results based upon the following measures: Business Performance (BP), Top Management (TM), Competitive Intensity (CI), Market Orientation (MO) and Organizational Dynamics and System (ODS). First, our results point to a strong relationship between top management and business performance. This is not surprising since top management plays a very important role in the success of a company. Our results also point to the fact that competitive intensity has a positive and significant correlation with all of the
other variables. It is no secret that the competition within an industry can vastly affect all of these other variables.

A second interesting finding in our research is that Top Management impacts all other variables positively, except Market Orientation. Although the relationship between Top Management and Market Orientation proved to be negative, it is not a significant relationship. This finding confirms our hypothesis 1a:

\textit{H1a: Top Management does not play a distinct role in the market orientation of high-tech firms.}

The most interesting finding is that Market Orientation has a negative relationship with Business Performance. It is this finding that distinguishes this research from most of the research that has come before it. Many other empirical studies, such as Kohli and Jaworski (1993), and Narver and Slater (1990), have described a positive relationship between these two variables. However, the high technology industry is different from many other industries due to its’ extreme competition, market turbulence, and technological turbulence. The results of the study also reiterate Kohli and Jaworski’s (1993) consequences of market orientation. We can see that there is a substantial amount of technological turbulence among our respondents (questions 21 through 24\(^1\)). This, as Kohli and Jaworski found, can lead to an organization being less market oriented. Our findings on the Market Orientation of the DFW high technology firms, and also on the relationship of MO and BP uphold our last two hypotheses:

\textit{H1b: High-technology organizations are less market oriented based upon the presence of heavy competition and high market turbulence.}

\textit{H2: Market orientation hinders higher business performance among high-technology firms.}

\textbf{FUTURE RESEARCH IMPLICATIONS}

This study leaves much room to be explored. As mentioned earlier, other industries within the population were not surveyed. Therefore, it is impossible to gauge the performance of high-technology in contrast to other industries. We can, however, extend our research to other high-technology oriented cities around the United States.

For example, the Silicone Valley in California would be an excellent place for comparison. The state of Texas has been consistently ranked as “the second largest technology state” in the annual AeA Cyberstates Report (2017). This report shows the yearly trends among the United States high technology sectors. Texas is consistently ranked behind California,
which boasts the Silicone Valley. Dallas is one of the largest high technology cities in Texas according to the AeA Cyberstates Report (2017). Since Dallas so closely mirrors the Silicone Valley, our results could be said to hold true for this part of the country as well. In fact, any city that is as technology-driven as Dallas, Texas could potentially benefit from our findings.

REFERENCES


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## APPENDIX A

### Market Orientation Survey

For each question below, circle the number to the right that best fits your opinion on the importance of the issue. Use the scale above to match your opinion.

<table>
<thead>
<tr>
<th>Question</th>
<th>Scale of Importance</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. In this business unit, we meet with customers at least once a year to find out what products or services they will need in future.</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>2. In this business unit, we do a lot of in-house market research.</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>3. We are slow to detect changes in our customers' product preferences.</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>4. We poll end users at least once a year to assess the quality of our products and services.</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>5. We periodically review the likely effect of changes in our business environment (e.g. regulation) on our customers.</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>6. We have interdepartmental meetings at least once a quarter to discuss market trends and developments.</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>7. Marketing personnel in our business unit spend time discussing customers' future needs with other functional departments.</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>8. When something important happens to a major customer or market, the business unit knows about it within a short period.</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>9. Data on customer satisfaction are disseminated at all levels in this business unit on a regular basis.</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>10. For one reason or another, we tend to ignore changes in our customers’ product or service needs.</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>11. We periodically review our product development efforts to ensure that they are in line with what customers want.</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>12. Several departments get together periodically to plan a response to changes taking place in our business environment.</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>13. If a major competitor launched an intensive campaign targeted at our customers, we would implement a response immediately.</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>14. The activities of the different departments in this business unit are well coordinated.</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>15. Even if we came up with a great marketing plan, we probably would not be able to implement it in a timely fashion.</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>16. When we find that customers would like us to modify a product or service, the departments involved make a concerted effort to do so.</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>17. In our kind of business, customers' product preferences change quite a bit over time.</td>
<td>1 2 3 4 5</td>
</tr>
</tbody>
</table>
18. Our customers tend to look for new products all the time. & 1 & 2 & 3 & 4 & 5 \\
19. Sometimes our customers are very price sensitive, but on other occasions, price is relatively unimportant. & 1 & 2 & 3 & 4 & 5 \\
20. The technology in our industry is changing rapidly. & 1 & 2 & 3 & 4 & 5 \\
21. Technological changes provide big opportunities in our industry. & 1 & 2 & 3 & 4 & 5 \\
22. If is very difficult to forecast where the technology in our industry will be in the next 2 to 3 years. & 1 & 2 & 3 & 4 & 5 \\
23. A large number of new product ideas have been made possible through technological breakthroughs in our industry. & 1 & 2 & 3 & 4 & 5 \\
24. Technological developments in our industry are rather minor. & 1 & 2 & 3 & 4 & 5 \\
25. Competition in our industry is cutthroat. & 1 & 2 & 3 & 4 & 5 \\
26. There are many promotion wars in our industry. & 1 & 2 & 3 & 4 & 5 \\
27. Anything that one competitor can offer, others can match readily. & 1 & 2 & 3 & 4 & 5 \\
28. Price is a hallmark of our industry. & 1 & 2 & 3 & 4 & 5 \\
29. One hears of a new competitive move almost every day. & 1 & 2 & 3 & 4 & 5 \\
30. When members of several departments get together, tensions frequently run high. & 1 & 2 & 3 & 4 & 5 \\
31. People in one department generally dislike interacting with those from another department. & 1 & 2 & 3 & 4 & 5 \\
32. Employees from different departments feel that the goals of their respective departments are in harmony with each other. & 1 & 2 & 3 & 4 & 5 \\
33. Protecting one's departmental turf is considered to be a way of life in this business unit. & 1 & 2 & 3 & 4 & 5 \\
34. The objectives pursued by the marketing department are incompatible with those of the manufacturing department. & 1 & 2 & 3 & 4 & 5 \\
35. There is little or no interdepartmental conflict in this business unit. & 1 & 2 & 3 & 4 & 5 \\
36. In this business unit, it is easy to talk with virtually anyone you need to, regardless of rank or position. & 1 & 2 & 3 & 4 & 5 \\
37. There is ample opportunity for hall talk among individuals from different departments in this business unit. & 1 & 2 & 3 & 4 & 5 \\
38. In this business unit, employees from different departments feel comfortable calling each other when the need arises. & 1 & 2 & 3 & 4 & 5 \\
39. Managers here discourage employees from discussing work related matters with those who are not their immediate superiors or subordinates. & 1 & 2 & 3 & 4 & 5 \\
40. People around here are quite accessible to those in other departments. & 1 & 2 & 3 & 4 & 5 \\
41. Junior managers in my department can easily schedule meetings with junior managers in other departments. & 1 & 2 & 3 & 4 & 5
<p>| | | | | | |</p>
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<tbody>
<tr>
<td>42. I feel that I am my own boss in most matters.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>43. A person can make his own decisions without checking with anybody else.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>44. How things are done here is left up to the person doing the work.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>45. People here feel as though they are constantly being watched to see that they obey all the rules.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>46. There can be little action taken until a supervisor approves.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>47. A person who wants to make his own decision would be quickly discouraged here.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>48. Even small matters have to be referred to someone higher up for a final answer.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>49. I have to ask my boss before I do almost anything.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>50. Any decision I make has to have my boss' approval.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>51. No matter which department they are in, people in this business unit get recognized for being sensitive to competitive moves.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>52. Customer satisfaction assessments influence senior managers' pay in this business unit.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>53. Formal rewards (i.e. pay raise, promotion) are forthcoming to anyone who consistently provides good market intelligence.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>54. Salespeople’s performance in this business unit is measured by the strength of the relationship they build with customers.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>55. We use customer polls for evaluating our salespeople.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>56. Top managers repeatedly tell employees that this business unit's survival depends on its adapting to market trends.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>57. Top managers often tell employees to be sensitive to the activities of our competitors.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>58. Top managers keep telling people around here that they must gear up now to meet customers' future needs.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>59. According to top managers here, serving customers is the most important thing our business unit does.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>60. Top managers in this business unit believe that higher financial risks are worth taking for higher rewards.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>61. Top managers in this business unit like to take big financial risks.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>62. Top managers here encourage the development of innovative marketing strategies, knowing well that some will fail.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>63. Top managers in this business unit like to play it safe.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>64. Top managers around here like to implement plans only if they are very certain that they will work.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>65. The overall performance of the business unit last year was excellent.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>66. The overall performance of the business unit relative to all competitors last year was excellent.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>
67. The overall performance of the business unit last year was excellent in comparison with what was expected.

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
</table>

68. The return on investment of the business unit relative to all competitors last year was excellent.

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
</table>

69. The sales of the business unit relative to all competitors last year were excellent.

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
</table>

**APPENDIX B**

**Tables**

**Table 1. Distribution of Sample Firms According to Their Industry**

<table>
<thead>
<tr>
<th>Industry</th>
<th>Number of Firms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction</td>
<td>3</td>
</tr>
<tr>
<td>Air Conditioning Supply</td>
<td>2</td>
</tr>
<tr>
<td>Construction - Special Trade Contractors</td>
<td>3</td>
</tr>
<tr>
<td>Manufacturing - Chemical Manufacturing</td>
<td>4</td>
</tr>
<tr>
<td>Manufacturing - Computer &amp; Electronic Products</td>
<td>10</td>
</tr>
<tr>
<td>Wholesale Trade</td>
<td>3</td>
</tr>
<tr>
<td>Retail Trade - Other Trade</td>
<td>6</td>
</tr>
<tr>
<td>Retail Trade - Other Retail</td>
<td>5</td>
</tr>
<tr>
<td>Information - Telecommunications, ISP, Search Portal</td>
<td>17</td>
</tr>
<tr>
<td>Finance &amp; Insurance - Credit Intermediation &amp; Related</td>
<td>5</td>
</tr>
<tr>
<td>Real Estate &amp; Rental &amp; Leasing - Real Estate</td>
<td>3</td>
</tr>
<tr>
<td>Professional, Scientific &amp; Technical Services</td>
<td>45</td>
</tr>
<tr>
<td>Administrative &amp; Waste Services - Administrative &amp; Support Services</td>
<td>3</td>
</tr>
<tr>
<td>Educational Services</td>
<td>4</td>
</tr>
<tr>
<td>Health Care &amp; Social Assistance</td>
<td>3</td>
</tr>
<tr>
<td>Other Services - Trade Association</td>
<td>1</td>
</tr>
</tbody>
</table>

Notes: The total number of firms is 117, and firms are classified according to The North American Industry Classification System (NAICS).

**Table 2. Distribution of Firm Orientation Measures and Characteristics**

<table>
<thead>
<tr>
<th>Variables</th>
<th>N</th>
<th>Mean</th>
<th>Q1</th>
<th>Median</th>
<th>Q3</th>
<th>Maximum</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>BP</td>
<td>117</td>
<td>2.07***</td>
<td>1.60</td>
<td>2.20</td>
<td>2.60</td>
<td>4.60</td>
<td>1.11</td>
</tr>
<tr>
<td>CI</td>
<td>117</td>
<td>2.76***</td>
<td>2.33</td>
<td>2.83</td>
<td>3.17</td>
<td>4.33</td>
<td>0.80</td>
</tr>
<tr>
<td>MO</td>
<td>117</td>
<td>2.66***</td>
<td>2.30</td>
<td>2.60</td>
<td>2.90</td>
<td>4.30</td>
<td>0.55</td>
</tr>
<tr>
<td>MTT</td>
<td>117</td>
<td>2.72***</td>
<td>2.38</td>
<td>2.63</td>
<td>3.00</td>
<td>5.00</td>
<td>0.78</td>
</tr>
<tr>
<td>ODS</td>
<td>117</td>
<td>2.81***</td>
<td>2.70</td>
<td>2.83</td>
<td>3.03</td>
<td>3.70</td>
<td>0.46</td>
</tr>
<tr>
<td>TM</td>
<td>117</td>
<td>2.56***</td>
<td>2.30</td>
<td>2.70</td>
<td>3.00</td>
<td>5.00</td>
<td>0.89</td>
</tr>
<tr>
<td># of Public</td>
<td>13</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td># of Private</td>
<td>114</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sales</td>
<td>117</td>
<td>1.044**</td>
<td>2.00</td>
<td>6.25</td>
<td>95</td>
<td>26000</td>
<td>1.128</td>
</tr>
<tr>
<td># of Employees</td>
<td>117</td>
<td>4.101*</td>
<td>10.00</td>
<td>50</td>
<td>310</td>
<td>184,000</td>
<td>2.325</td>
</tr>
</tbody>
</table>

Notes:

1. ***, **, and * stand for statistically significant at 1%, 5%, and 10% levels.

2. BP is business performance measure, CI is Competitive Industry measure, MO is Market Orientation measure, MTT is Market & Technological Turbulence measure, ODS is Organizational Dynamics & System measure, and TM is Top Management measure. All measures are between 0 and 5 where 0 is the lowest and 5 is the highest.
Table 3. Pearson Correlation Table

<table>
<thead>
<tr>
<th>Variable</th>
<th>BP</th>
<th>CI</th>
<th>MO</th>
<th>MTT</th>
<th>ODS</th>
<th>TM</th>
</tr>
</thead>
<tbody>
<tr>
<td>BP</td>
<td></td>
<td>0.16*</td>
<td></td>
<td>-0.22**</td>
<td>-0.21**</td>
<td>0.27***</td>
</tr>
<tr>
<td>CI</td>
<td>0.16*</td>
<td></td>
<td>0.16*</td>
<td>0.31***</td>
<td></td>
<td>0.43***</td>
</tr>
<tr>
<td>MO</td>
<td>-0.22**</td>
<td>0.16*</td>
<td></td>
<td>0.57***</td>
<td></td>
<td>0.40***</td>
</tr>
<tr>
<td>MTT</td>
<td>-0.21**</td>
<td>0.31***</td>
<td>0.57***</td>
<td></td>
<td>0.55***</td>
<td></td>
</tr>
<tr>
<td>ODS</td>
<td>0.27***</td>
<td>0.43***</td>
<td>0.40***</td>
<td>0.55***</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TM</td>
<td>0.37***</td>
<td>0.23**</td>
<td></td>
<td></td>
<td>0.07</td>
<td></td>
</tr>
</tbody>
</table>

Notes:
1. ***, **, and * stand for statistically significant at 1%, 5%, and 10% levels.
2. BP is business performance measure, CI is Competitive Industry measure, MO is Market Orientation measure, MTT is Market & Technological Turbulence measure, ODS is Organizational Dynamics & System measure, and TM is Top Management measure. All measures are between 0 and 5 where 0 is the lowest and 5 is the highest.

Table 4. Market Orientation and Other Firm Characteristics

<table>
<thead>
<tr>
<th>Variables</th>
<th>Expected Sign</th>
<th>Coefficient (t-stat)</th>
<th>Coefficient (t-stat)</th>
<th>Coefficient (t-stat)</th>
<th>Coefficient (t-stat)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>1.322***</td>
<td>1.401**</td>
<td>1.226**</td>
<td>1.414**</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(3.53)</td>
<td>(2.57)</td>
<td>(2.07)</td>
<td>(2.58)</td>
<td></td>
</tr>
<tr>
<td>BP</td>
<td>-0.088**</td>
<td>-0.073**</td>
<td>-0.037*</td>
<td>-0.083*</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(-2.13)</td>
<td>(-1.99)</td>
<td>(-1.75)</td>
<td>(-1.78)</td>
<td></td>
</tr>
<tr>
<td>CI</td>
<td>-0.024</td>
<td>0.037</td>
<td>0.041</td>
<td>0.023</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(-0.37)</td>
<td>(0.50)</td>
<td>(0.59)</td>
<td>(0.30)</td>
<td></td>
</tr>
<tr>
<td>MTT</td>
<td>0.266***</td>
<td>0.204**</td>
<td>0.228***</td>
<td>0.222**</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(3.59)</td>
<td>(2.15)</td>
<td>(2.91)</td>
<td>(2.22)</td>
<td></td>
</tr>
<tr>
<td>ODS</td>
<td>0.376**</td>
<td>0.381*</td>
<td>0.427**</td>
<td>0.359*</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(2.09)</td>
<td>(1.76)</td>
<td>(2.10)</td>
<td>(1.72)</td>
<td></td>
</tr>
<tr>
<td>TM</td>
<td>-0.076</td>
<td>-0.139</td>
<td>-0.179***</td>
<td>-0.111</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(-1.37)</td>
<td>(-1.57)</td>
<td>(-2.62)</td>
<td>(-1.21)</td>
<td></td>
</tr>
<tr>
<td># of Employees</td>
<td>0.000</td>
<td>0.000*</td>
<td>0.000</td>
<td>0.000</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.88)</td>
<td>(1.71)</td>
<td>(1.71)</td>
<td>(1.71)</td>
<td></td>
</tr>
<tr>
<td>Sales (Million $)</td>
<td>-0.000</td>
<td>-0.000**</td>
<td>0.000</td>
<td>0.000</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(-0.07)</td>
<td>(2.58)</td>
<td>(2.58)</td>
<td>(2.58)</td>
<td></td>
</tr>
</tbody>
</table>

Notes:
1. ***, **, and * stand for statistically significant at 1%, 5%, and 10% levels.
2. BP is business performance measure, CI is Competitive Industry measure, MO is Market Orientation measure, MTT is Market & Technological Turbulence measure, ODS is Organizational Dynamics & System measure, and TM is Top Management measure. All measures are between 0 and 5 where 0 is the lowest and 5 is the highest.
3. For the panel estimation, the t-statistics are calculated by using corrected standard errors based on Huber-White-Sandwich procedure (see Petersen, 2005) for the potential multicollinearity and heteroskedasticity problems.
4. Dependent Variable is Market Orientation.
NOW YOU SEE ME, NOW YOU DON'T" THE IMPACT OF PERCEIVED COMMUNITY IMPACT AND MEDIA INTEREST ON ENVIRONMENTAL SPILL REPORTING

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Abstract  
The National Response Center (NRC) data base offers a unique insight into the intentions of companies who report Oil Spills and Hazardous Material Releases. An analysis of 484,954 NRC cases, using frequency tables from a reduced variable set, found that less than 1% of reporting organizations from 2000 to 2015 anticipated community or media interest for a reportable incident yet, they spent twice as long, 13 versus 7 minutes, reporting the incident. This suggests that firms in their initial NRC report provide more information to the NRC when they perceive potential media or Community Impact. Several reasons for this phenomenon are possible. However, it is likely that companies perceive oil spills and hazardous material releases as a known risk (the cost of doing business) and that spills and releases can never be eliminated. It is only when the risk of media interest or Community Impact rises above some level of acceptable risk where unwanted attention is drawn to the firm is more information provided to authorities to manage expectations and limit future liability or further scrutiny. It is also suggested that organizational knowledge of local expectations of what constitutes risk partly determines further release of information.

Keywords: community impact, hazardous material release, media interest, oil spills
INTRODUCTION

Many industrial and other types of businesses in the United States operate with the use of oils and chemicals in their day-to-day operations. The operations are well regulated and controlled, and accidents do not happen very often, yet when they do, there is potential for an environmental impact on the local community and in more extreme events, a broader regional area (i.e., a Black Swan Event). Many well reported black swan events such as Exxon Valdez, Texas City Refinery disaster, and Deepwater Horizon had billions of dollars of environmental impact for clean-up cost and liabilities. The general public’s trust in the ability of the oil and chemical companies to prevent spills has eroded, as evident in the months long stand-off for the construction of the Dakota Access Pipeline. For the case that an environmental emergency occurs, the Federal Government has established reporting standards for oil spills and hazardous substance releases that when federally mandated limits are exceeded, the event must be reported. These regulations cover thousands of cases per year, not just black swan type events.

While not routine, enough oil spills and hazardous chemical releases occur each year that the federal government has established the National Response Center (NRC) as the single point of initial contact for reporting, documenting, and coordinating federal, state, and local resources.

Initial reports are made as soon as a qualifying oil spill, or hazardous waste discharge occurs, is discovered within an organization, or found by a third party. The initial report begins the process of alerting responsible government agencies at the Local, State, and Federal levels to align and put in place the right people and equipment to deal with the problem, it does not require the reporting agency, company, or person to be in possession of all the facts nor provide anything close to complete information about the incident. The relationship between industrial businesses and the natural environment in the United States has somewhat of a spotty history given industries initial responses to Black Swan events and Superfund sites (Birkland, 1998; Bodkin, Amato, & Amato, 2015; Dalton, Riggs, & Yandle, 1996). Superfund sites are polluted locations requiring a long-term response to clean up hazardous material contaminations, designated under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980. Given the potential for liabilities and the societal pressure to protect the natural environment from the impact of dangerous substances, businesses and regulatory agencies such as the Environmental Protection Agency (EPA) have developed processes how to manage environmental spills and its reporting. Thus, our study seeks to use the National Response Center (NRC) Database Data to investigate the extent to which oil spill and hazardous material initial reports are useful in alerting the public to potential danger and environmental impacts.

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Following the introduction, we outline the research study, provide a background of the NRC database and present our findings. Conclusions and limitations of the study follow.

OVERVIEW OVER THE RESEARCH STUDY
Organizations engage in strategic actions to receive support from their stakeholders such as employees, customers, and the communities near their operations. Organizations need to gain legitimacy by aligning with the norms, values, and social expectations of their stakeholders (Marshall & Brown, 2003), as well as to secure resources needed for firm operations (Petrick, Scherer, Brodzinski, Quinn, & Ainina, 1999; Pfeffer & Salancik, 1978). In addition, researchers have argued that reputational capital can be built by a firm that adjusts to the social values of its salient stakeholder groups (Fombrun, 2001; Jackson, 2004; Petrick et al., 1999; Post, Preston, & Sachs, 2002). One example of a social value mutually expressed by many different stakeholder groups impacting firm operations is the protection of the natural environment and the reduction of ecological “footprints.” When firm operations cause harm to the natural environment and create environmental emergencies, the events are usually well publicized and have the potential to create a substantial negative impact on firm financial performance.

In this research study, we investigate the firm actions during the environmental spill reporting process. The United States Coast Guard staffs the National Response Center (NRC) and is the sole national point of contact for reporting all oil, chemical, radiological, biological, and etiological discharges into the environment anywhere in the United States and its territories. In addition to gathering and distributing spill data for Federal On-Scene Coordinators and serving as the communications and operations center for the National Response Team, the United States Coast Guard maintains agreements with a variety of federal entities to make additional notifications regarding incidents meeting established trigger criteria. We utilized data retrieved from the National Response Center’s (NRC) database of environmental spill incident reports. The available data included 751,032 cases/calls over 26 years with a total of 254 variables for each case.

Intended for the Environmental Protection Agency (EPA), the NRC receives incident reports under the Federal Response System (FRS) which is supported under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) of 1980, Clean Water Act of 1972, Clean Air Act Amendments of 1990, and the Oil Pollution Act of 1990. The NRC disseminates reports of oil discharges and chemical releases to the cognizant EPA Federal On-Scene Coordinator (NRC, 2010). The EPA is the federal authority commissioned to protect the
natural environment (air, water, and soil) and the living conditions of the general population from the polluting effects of industrial activity (EPA, 2009).

Given the context of using the National Response Center (NRC) Database Data to investigate the extent to which oil spill and hazardous material initial reports are useful in alerting the public to potential danger and environmental impacts, the more specific research question we ask is how do entities reporting oil spills and hazardous material releases conduct and prioritize their actions in the reporting process, and what the potential motivators of such actions are.

**RELEVANT LITERATURE**

**Resource Dependence Theory**
The idea that resources are finite and businesses are constricted and influenced by their external environments to acquire said resources is widely accepted (Pfeffer & Salancik, 2003). In the context of environmental performance, firms are impacted by governmental regulations based on laws enacted to protect the natural environment and other stakeholders (e.g. Clean Air Act, Clean Water Act, Occupational Health and Safety Act, Pollution Prevention Act, etc.), as well as public discourse about firm operations when trying to obtain building permits, community support, and other issues controlled by state and local governments. One of the resources needing to be acquired by any organization is the capital to invest in new business opportunities. Large public firms rely heavily on external capital markets to invest in future growth. Internal adjustments for efficiency are not enough to ensure firm survival (Pfeffer & Salancik, 1978), so firms depend on the external environment to secure resources for future growth and operation. The firms that manage their stakeholders best are the ones securing resources with ease.

**Stakeholder Management**
Stakeholder theory suggests that managers need to consider the interest of all their constituents, not only the interest of the shareholders (Laplume, Sonpar, & Litz, 2008). Even though the economic performance of the firm is a cornerstone, the interests of other stakeholders need to be addressed to ensure firm support and survival. Since firms do not exist in a vacuum, they must actively manage their stakeholder relationships through their actions and responses. Empirical work has shown that stakeholder management is a multidimensional construct that has direct effects on firm performance, as well as moderating effects on the relationship between firm strategy and firm performance (Berman, Wicks, Kotha, & Jones, 1999).
Stakeholder management is important for its upside potential to increase firm performance, as well as to avoid downside risks. It helps to avoid more regulation and explicit contracts that increase the cost structure of a firm because monitoring abidance of the rules tends to tie up valuable resources. In the worst case scenario, the legitimacy of the firm’s existence is at stake if firm actions and outputs are not “consistent with the value pattern of society” (Sutton, 1993). Therefore, firms need to pro-actively ensure that no harm comes to stakeholders, rather than reactively managing the fallout if salient stakeholder claims go unanswered. In the context of environmental spill reporting, the research found that credible communication about the natural environment protected firms from the financial fallout of an environmental spill (Horn, 2016).

Reputation
Unlike small business reputation that is closely linked to the individual reputation of the firm’s owner, in larger corporations the corporate entity develops its own reputation. The process is crafted and managed by the mission, vision, and organizational culture of the firm. Individual reputation is defined as “an agreed upon, collective perception by others, and involves behavior calibration derived from social comparisons with referent others that results in a deviation from the behavioral norms in one’s environment, as observed and evaluated by others.” Corporations are treated as people in many aspects of the legal system, and the corporate reputation derives, like the individual reputation, out of firms’ key stakeholders’ perceptions (Zinko, Ferris, Blass, & Laird, 2007). To keep and improve a firm’s positive reputation, the company needs to manage risk and avoid negative reports.

Managing Risk
Risk management in most business areas does not yet have well documented best practices or standards (McKeen & Smith, 2015). Firms may minimize risk by rehearing oil spill or hazardous release incidents, clarifying roles and responsibilities, educating and communicating to employees the values of the organization but, how well these values and training have taken hold would be reflected in the content of the NRC initial report. Further, most organizations might or should have a Social Media (SM) Policy in place. This policy is a statement that delineates a employees rights and responsibilities (Kroenke & Boyle, 2016). Basic SM policies would suggest that employees disclose, protect, and use common sense when communicating outside of the organization. In dealing with an NRC reporting incident, the responsible employee for making the initial NRC incident report is going to be concerned about reporting
in a timely manner, confirming the accuracy of the limited information available, and deciding what information can be shared later or if at all. The key concerns of this individual would be to anticipate Media Interest and Community Impact to avoid suggestions of an environmental cover-up or a lack of transparency.

It is also clear that firms would have a vested interest in being transparent in their reporting to protect their reputations. Yet clearly, it would be in a firm’s best interest to minimize the public or regulatory impact of an oil spill or hazardous material release by positioning the event as a routine or normal incident which is just the cost of doing business. In a recent study examining whether environmental reporting serves as a transparency tool to communicate sound environmental policies to stakeholders, rather than a manipulation tool of stakeholder’s perceptions, researchers found that corporate social responsibility related disclosures are often used as a tool to signal a company’s commitment to limit the adverse environmental impact of corporate business operations (Arena, Bozzolan, & Michelon, 2015). If this assumption holds true, one would assume that all company NRC incident reports would be reported with the same diligence so that environmental performance can be improved in the future. The point to be made is that firms are not in business for the protection of the natural environment per se, or limiting future environmental impact, but are more concerned with being “caught” and the visibility their spills or hazardous material releases have. Consequently, we hypothesize that:

*Hypothesis 1: Oil and gas companies prioritize the prevention of potential threats to their resource base over the potential threats to the natural environment when reporting a spill.*

**METHODS**

**National Response Center Data Base**

Accidental releases of potentially harmful materials happen in the US all the time. The clear majority of reportable spills or hazardous material releases are small and well contained at the site of the industrial operator. Nevertheless, organizations follow well defined reporting processes when an incident occurs, being regulated by the EPA and implemented by the National Response Center (NRC). The NRC maintains a record of all reported incidents and makes the yearly data available to the public as MS Excel Spreadsheets assessable by year on the United States Coast Guard NRC website (http://www.nrc.uscg.mil).

By law, any person or organization responsible for a hazardous material release or oil spill is required to notify the federal government when the spill amount reaches a federally-determined state. The Environmental Protection Agency (EPA) has established requirements to
report oil spills and chemical spills. Oil spills have to be reported when the oil reaches navigable waters or adjoining shorelines that violate applicable water quality standards, cause a “sheen,” “film,” or discoloration of the surface of the water, or cause a sludge or emulsion to be deposited beneath the surface of the water or adjoining shorelines. Chemical based spills and spills of other non-oil based substances have to be reported when the amount spilled exceeds a set reportable quantity (RQ). Under the Emergency Planning and Community Right-to-Know Act (EPCRA), the federal government created a list of several hundred extremely hazardous substances based on their acute toxicity. Under the law, releases of these extremely hazardous substances trigger reporting requirements to state and local authorities, as well as the federal authorities.

It is important to understand that the National Response Center (NRC) is a part an extensive federally established National Response System, staffed 24 hours a day by the U.S. Coast Guard. The NRC is the sole national point of contact for reporting all oil, chemical, radiological, biological and etiological discharges into the environment, anywhere in the United States and its territories. Initiating reports to the NRC activate the National Contingency Plan and the Federal government's response capabilities (https://www.epa.gov/emergency-response/national-response-center). It is the direct responsibility of the NRC staff to notify the appropriate pre-designated Local, State, of Federal On-Scene Coordinators assigned to the area of the incident and to collect available information on the size and nature of the release, the facility or vessel involved, and those responsible for the release. The NRC maintains reports of all releases and spills in a national database (http://nrc.uscg.mil). Reporting organizations or individuals are asked to report as a minimum:

- Your name, location, organization, and telephone number
- Name and address of the party responsible for the incident
- Date and time of the incident
- Location of the incident
- Source and cause of the release or spill
- Types of material(s) released or spilled
- Quantity of materials released or spilled
- Danger or threat posed by the release or spill
- Number and types of injuries (if any)
- Weather conditions at the incident location
- Any other information that may help emergency personnel respond to the incident.
In addition to gathering and distributing spill data for Federal On-Scene Coordinators and serving as the communications and operations center for the National Response Team, the NRC maintains agreements with a variety of federal entities to make additional notifications regarding incidents meeting established trigger criteria. For the Environmental Protection Agency (EPA), the NRC receives incident reports under the Federal Response System (FRS) which is mandated under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) of 1980, Clean Water Act of 1972, Clean Air Act Amendments of 1990, and the Oil Pollution Act of 1990. The NRC disseminates reports of oil discharges and chemical releases to the cognizant EPA Federal On-Scene Coordinator (NRC, 2010). The EPA is the federal authority commissioned to protect the natural environment (air, water, and soil), and therefore the living conditions of the general population, from the polluting effects of industrial activity (EPA, 2009).

The NRC database was established in 1990 and contains approximately 254 variables that expand upon the basic information above. Of interest to our study are two self-reported measures, Community Impact and Media Interest. These variables are simple “yes” or “no” fields suggesting that frequency tables would be the most appropriate way to display pertinent data. It should also be noted that many of the reportable fields are left blank, labeled unknown, or have misspellings, confounding more complex analysis. The notification speed of the report is of more value than the accuracy or completeness of the report. The NRC staff does not go back and correct any errors, fill in missing information, or make any assumptions about what data should be reported, and in fact, if the reporting agency or person requests a substantial change in the data, a new database case is begun. There is no reasonable way to determine how often a once reported case is re-reported but, conversations with NRC staff suggests that this is an infrequent occurrence. While the incompleteness and accuracy of the data have its own issues, the immediacy of the information being submitted provides clues into the risk assessment training and organizational culture of the reporting agency or individuals making the report related to environmental impact. Each report/case reflects the best-known information at the time of the report and what information the reporter of the incident wants the NRC to have at that point in time.
Variables

To test our hypothesis, we utilize perceived media interest and community impact as measures for the perceived visibility of the spill. With an increase in visibility the threat to the firm’s resource base through potential litigation and reputational damage increases. Total reporting time is used as a proxy measure of detail and diligence in the reporting process since a more detailed report simply takes more time on the phone with the operator of the NRC.

Interrater Reliability of Personnel Reporting Incidents

We do not have the ability in this dataset to test for interrater reliability; nevertheless, we will show the availability of research studies done in the past that interrater reliability exists in the environmental reporting context. We can reasonably assume that the actions of the reporting agent reflect the values, norms, and beliefs of the organization as a whole. Reportable incidents can be reported in a variety of ways. The most frequent reports are made by phone. One could simply make the case that variance in the length of phone call reports is introduced by the different reporting agent’s perceptions, motivations, and ideas. Individual incident reporters could simply be lazier in the reporting process while another is more diligent. If that were the case, we would expect variance in the data independent of the variables being measured. However, there is an expectation that the reporting of an incident by the onsite industrial operator is done by a trained individual as evidenced by hundreds of annual training calls recorded by the NRC. Given the large sample size being used, a reasonable expectation is that the average length of a phone call of a reportable incident would average out reports that are either too long or too short being submitted by lesser trained individuals. In an experimental study exploring the reliability of social and environmental disclosures for a content analysis, research has shown that interrater reliability in coding environmental communication exists even with untrained individuals, and the reliability improves substantially by training the coders with at least 20 sentence samples (Milne & Adler, 1999). Inference can be made that well trained environmental spill reporting personnel, therefore, has a high level of interrater reliability. Given that organizational cultures form through the attraction-selection-attrition framework (Schneider 1987), and organizational norms and values are communicated to the organizational members in either codified or non-codified fashion, the actions of the reporting individual are therefore a reflection of the values and norms the organization as whole holds. Further, the reporting process is well outlined, trained, practiced, and guided by questions asked by the NRC operator.
The Incident Impact-Severity-Media Interest Risk Assessment Matrix

Figure 1 suggests a relationship between the extent to which a community would be interested in an oil spill or hazardous material release and the severity of the spill or release. Further, the extent to which a community would be interested in the impact of an oil spill or hazardous material release would generate some media interest. Figure 1 further suggests that if an oil spill or hazardous release were severe enough, Community Impact and Media Interest would be higher.

Community Impact as explained in the NRC Data Dictionary is defined as “Indicates if a community was affected by the incident (Yes or No).” Media Interest is defined as “Indicates the three levels (Low, Medium, and High) of news media interest of the incident and can be converted to a binary variable as well. The severity of an oil spill or hazardous material release can be adjudged based on the number of injuries, deaths, size, and other impact variables found in the database. These measures are reported at the time of the report by responsible organizations or individuals and reflect their organizational view or personal view of the current circumstances. Thus, these individuals are reporting what they expect to happen and not what may happen in the future. We believe this provides an important context to evaluate the NRC data.

Figure 1 suggests one possible risk assessment matrix that organizations by considering in determining whether Media Interest or Community Impact in an incident exists. If the spill or hazardous release is small and easily contained and corrected, then there would be little or no Community Impact. As the severity of the impact increases the potential for Media Interest and Community Impact grows. Figure 1 suggests a continuum from low to high on each axis. It is suggested that there may be incidents which have little severity but may be flash points for the local area that raises ongoing concerns. For instance, a company may have reoccurring small discharges in a local stream. Overtime, in terms of severity, there may be enough re-occurring incidents that the local population is numb to one more instance. It’s not until there is one spill to many that Community Impact goes higher. In terms of severity, certain jobs are dangerous, and accidents are routine or even expected. In this case, severity may be high but, Community Impact is low because it’s the nature of the work. Media Interest could be a fickle thing. Airplane crashes routinely generate news, but a railroad car crash might go unreported. It should be clear that if Community Impact is high and severity is high, the likelihood of Media Interest does increase.
Figure 1. Impact-Severity-Media Interest Risk Assessment Matrix

SEVERITY OF INCIDENT
DATA ANALYSIS

Raw data were collected from the National Response Center (NRC) website for the years 1990 through 2014 resulting in a dataset of 254 variables and 777,947 cases. Each year consisted of ten separate spreadsheets labeled Calls, Incident_Commons, Incident_Details, Incidents, Material_Involved, Material_Involved_CR, Trains_Detail, Derailed_Units, Vessels_Detail, and Mobile_Details. Relevant variables from these worksheets were then combined into a single Excel spreadsheet using AbleBits, an MS Excel Plugin tool, using the individual report “Sequence Number” (SEQNOS) variable as a unique identifier to combine the data. The SEQNOS variable is a unique variable that identifies each individual call/case made to the NRC and uniquely identifies each row in each of the spreadsheets. The Excel Data was then imported into IBM SPSS Statistics version 22 for processing and analysis. SPSS was used to manipulate data, analyze columns and rows, and create tables to visualize the data.

The data set was systematically reduced to identify variables that might have an impact on news worthiness. Key variables, “Media Interest” and “Community Impact” were selected
as variables of interest. The dataset from 1990 through 2015 contains 751,032 individual records with sequence numbers (SEQNOS) ranging from 1 to 1,110,662. Missing SEQNOS Numbers are common. Further, the data set is rife with spelling errors, typos, obvious erroneous data, and missing data. It is important to consider that the NRC dataset records first responder information that initiates the proper federal, state or local response to an oil spill or hazardous spill release within 15 minutes making the speed of response more important than completeness or accuracy of reported information.

The dataset was then further reduced by deleting the years 1990 through 1999 resulting in 484,954 usable reports. The Community Impact and Media Interest variables were not used between 1990 and 1999. The data set was greatly simplified to look for variables that could be changed to binary variables. For instance, cases would track the number of injuries or deaths, but for data analysis, it made more sense to convert these types of variables to “Yes” for injury and “No” for no injury. If an injury field was left blank or reported as unknown, we coded this field as a “no.” This was done for several variables to use frequency counts and to look for relationships.

We found that between 1990 and 2015 the NRC received reportable incidents from the Federal Government (2.1%), Foreign Agency (0.0%), Local Government (1.0%), Military (1.0%), Private Citizen (4.4%), Private Enterprise (58.2%), Public Utility (3.0 %), State Government (0.3%), and other (30.1 %). Data is reported to the NRC via FAX (0.0%), Message Traffic (0.5%), News (0.0 %), others (0.0%), Telephone (55.7%), Unavailable (41.2%), and Web Report (2.5%). Of importance is the preponderance of reports coming from the private sector (58.2%) and being made by phone (55.7%). Private sector reports being made by phone are approximately 52.3%, 45.2% unknown, and 2.5% other communication channels. Length of Call was calculated by subtracting the Date Time Received from Date Time Complete variables.

As shown in Table 1, Media Interest was reflected in 4,718 incidents and Community Impact was reflected in 767 incidents with 313 incidents reflected in both determinants. It should be noted in Table 1 that these determinants reflect only a very small percentage of the total number of calls made to the NRC, approximately 0.01%. It was found that the average length of “all” calls to the NRC was 7:20 minutes with a standard deviation of 11:07 minutes. Calls that indicated Media Interest lasted an average of 13 minutes with a standard deviation of 8.0 minutes. Calls that indicated Community Impact lasted an average of 13 minutes with a standard deviation of 9.20 minutes.
As shown in Table 2, any damages, any evacuations, and fatalities, or any injuries increase the incidence of an organization reporting Community Impact or Media Interest. There was no discernible difference based on the type of structure, types of vehicles, type of fuel including nuclear for Media Interest or for Community Impact. These results suggest, as shown in Figure 1, the greater the severity of the incident the more likely an organization is going to report to the NRC a Community Impact or a suggestion of Media Interest. Reporting organizations also seem to pay higher interest in reporting Community Impact concerning evacuations over media interest. The media seems to be of more concern when considering injuries. We suspect that the greater the damages, number of injuries, number of fatalities, and increase in damages will increase an organizations propensity to report media interest.

Table 1. Community Impact Versus Media Interest

<table>
<thead>
<tr>
<th>Community Impact</th>
<th>Media Interest</th>
<th>YES</th>
<th>NO</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>YES</td>
<td>Count %</td>
<td>313 (0.1%)</td>
<td>454 (0.1%)</td>
<td>767 (0.2%)</td>
</tr>
<tr>
<td>UNKNOWN</td>
<td>Count %</td>
<td>2,113 (0.4%)</td>
<td>254,549 (52.5%)</td>
<td>254,549 (52.9%)</td>
</tr>
<tr>
<td>NO</td>
<td>Count %</td>
<td>2,292 (0.5%)</td>
<td>225,233 (46.6%)</td>
<td>227,525 (46.9%)</td>
</tr>
<tr>
<td>TOTAL</td>
<td>Count %</td>
<td>4,718 (1.0%)</td>
<td>480,236 (99.0%)</td>
<td>484,954 (100.0%)</td>
</tr>
</tbody>
</table>

Table 3 suggests Type of Incident may matter. Incidents in Fixed Locations, Mobile spills, Pipeline, and Railroad incidents suggest elevated interest in reporting information to the NRC. It is interesting that organizations seem more interested in reporting a community impact for fixed sites, pipelines, platforms, and storage tanks. It also seems that organization considers media interest to a greater degree when considering mobile incidents and railroads. These results suggest that organizations may consider Community Impact ahead of Media Interest in determining whether to report an incident at a fixed site, a local pipeline, or a nearby platform. The data also suggests that the media is less interested in events that occur “out-of-site” while local organizations need to be more concerned about events impacting their local community.

It was surprising to find so few calls where the organizations anticipated Media Interest or Community Impact, nevertheless the n = 4718 for Media Interest, and the n = 767 of Community Impact variables are substantial enough to conclude the hypothesis one is confirmed such that the companies are more diligent in their reporting if the potential visibility poses a threat to the resource base, while spills that are “out of sight” are also “out of mind” to a point where the reports receive much less diligence and attention.
### Table 2. Within Community Impact and Media Interest Percentages

<table>
<thead>
<tr>
<th></th>
<th>Community Impact NO/UNKNOWN/YES</th>
<th>Media Interest NO /YES</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANY DAMAGES</td>
<td></td>
<td></td>
</tr>
<tr>
<td>NO COUNT/%</td>
<td>223693 (98.3%)</td>
<td>471422 (98.2%)</td>
</tr>
<tr>
<td>UNKNOWN COUNT/%</td>
<td>1330 (0.6%)</td>
<td>4145 (0.9%)</td>
</tr>
<tr>
<td>YES COUNT/%</td>
<td>2502 (1.1%)</td>
<td>4669 (1.0%)</td>
</tr>
</tbody>
</table>

| ANY EVACUATIONS  |                                 |                        |
| NO COUNT/%       | 223345 (98.2%)                  | 470795 (98.0%)         |
| UNKNOWN COUNT/%  | 535 (0.2%)                      | 2535 (0.5%)            |
| YES COUNT/%      | 3555 (1.6%)                     | 6906 (1.4%)            |

| ANY FATALITIES   |                                 |                        |
| NO COUNT/%       | 220786 (97.0%)                  | 462627 (96.3%)         |
| UNKNOWN COUNT/%  | 539 (0.2%)                      | 14849 (3.1%)           |
| YES COUNT/%      | 6200 (2.7%)                     | 14075 (3.0%)           |

| ANY INJURIES     |                                 |                        |
| NO COUNT/%       | 219533 (96.5%)                  | 462087 (96.2%)         |
| UNKNOWN COUNT/%  | 1064 (0.5%)                     | 4074 (0.8%)            |
| YES COUNT/%      | 6928 (3.0%)                     | 14075 (3.0%)           |

| Total            |                                 |                        |
| COUNT/%          | 227525 (100.0%)                 | 480236 (100.0%)        |

### Table 3. Within Community Impact and Media Interest Percentages

<table>
<thead>
<tr>
<th>TYPE OF INCIDENT</th>
<th>Community Impact NO/UNKNOWN/YES</th>
<th>Media Interest NO /YES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aircraft</td>
<td></td>
<td></td>
</tr>
<tr>
<td>COUNT/%</td>
<td>1587 (0.7%)</td>
<td>2711 (0.6%)</td>
</tr>
<tr>
<td>Continuous</td>
<td>1570 (0.7%)</td>
<td>3238 (0.7%)</td>
</tr>
<tr>
<td>Fixed</td>
<td>85652 (37.6%)</td>
<td>162081 (33.8%)</td>
</tr>
<tr>
<td>Mobile</td>
<td>22037 (9.7%)</td>
<td>49498 (10.3%)</td>
</tr>
<tr>
<td>Pipeline</td>
<td>12168 (5.3%)</td>
<td>21835 (4.5%)</td>
</tr>
<tr>
<td>Platform</td>
<td>9813 (4.3%)</td>
<td>20811 (4.3%)</td>
</tr>
<tr>
<td>Railroad</td>
<td>9064 (4.0%)</td>
<td>22199 (4.6%)</td>
</tr>
<tr>
<td>Railroad Non-Release</td>
<td>10252 (4.5%)</td>
<td>24405 (5.1%)</td>
</tr>
<tr>
<td>Storage Tank</td>
<td>18823 (8.3%)</td>
<td>36841 (7.7%)</td>
</tr>
<tr>
<td>Unknown Sheen</td>
<td>26844 (11.8%)</td>
<td>67685 (14.1%)</td>
</tr>
<tr>
<td>Vessel</td>
<td>29715 (13.1%)</td>
<td>68932 (14.4%)</td>
</tr>
<tr>
<td>Total</td>
<td>227525 (100.0%)</td>
<td>480236 (100.0%)</td>
</tr>
</tbody>
</table>
LIMITATIONS
The NRC data base has misspellings, missing data, and unknown fields. These limitations directly affect the types of analysis available to researchers and may significantly influence the interpretation of results and the generalizability of conclusions. This limits its usefulness but does provide an insight into how much is known at the outset of a reporting incident. It is this perspective that provides some insight into the true intentions of firms required by law to report Oil Spills and Hazardous Chemical Releases.

The variables of Community Impact and Media Interest are better labeled as Perceived Community Impact and Perceived Media Interest since the researcher cannot determine if the incident really leads to a Community Impact or Media Interest. The fields in the database are populated within the first 15 minutes of the incident, so we can assume the press does not report incidents routinely. We found from 1990 through 2015 only 314 out of 777,947 incident reports, approximately 12 per year, originated from new sources. The focus of this research was on Private Enterprise leaving open future research to consider the behaviors of other reporting sources. Nevertheless, this research does suggest that Private Enterprise incidents do behave differently when the perception of Community Impact or Media Interest exists. If the organizations would truly be interested in protecting the natural environment in the best way possible, the reporting would be as diligent as possible, regardless of somebody else is watching. Given the fact that the call length doubles when the organizations expect community interest and/or media interest, we can extrapolate from the existing data that organizations are more interested in protecting themselves than in protecting the environment. The reporting is much more diligent when the organization perceives that somebody else is looking. Therefore our hypothesis is confirmed.

There are no variables that measure the impact on the environment. It might be of interest to determine if differences exist in the reporting between the firms that have an outstanding environmental performance record and the firms that are considered “dirty” in terms of their initiatives in regard to the protection of the natural environment.

The size, volume, or location of a spill or hazardous release may impact the amount of information released in the initial incident report to the NRC. Those individuals onsite may have the experience or training to anticipate the need for additional local, state, or federal resources. Future research in how organizations train staff for NRC incident reporting might provide further insight into organizational decision making, strategic objectives, and environmental values.
CONCLUSION

In this research study, we investigated how organizations, through their agents, report environmental spills to the National Response Center. A lot of companies these days proclaim a commitment to the protection of the natural environment to align their values with the values of their salient stakeholder groups. If the protection of the natural environment is of utmost importance for the companies, every individual report to the NRC should receive the same care and attention since the call triggers the necessary emergency response procedures to the spill. Individuals representing their organizations and making the initial NRC incident report are reporting what we believe to be routine Oil Spills and Hazardous Material Releases, and we found that the reporting agents do treat the environmental reporting procedure differently if certain variables are present. If the agents reporting the environmental emergency perceive there to be community interest or media interest, they are treating the reporting with twice as much care and diligence.

It is thought that Oil Spills and Hazardous Material Releases happen frequently and thus they are the cost of doing business and remain out of the realm of awareness of most individuals. Incidents that happen within an organization’s protected boundaries pose little threat to the community or the environment. Local, State, and Federal response teams react quickly and professionally limiting any damage done. Thus, organizations anticipating Community Impact or Media Interest only report more information when the risk to the firm is higher, and there is a greater need to appear open and forth coming. Potentially, undiscovered or unreported potential Superfund sites will lead to incidents reports over time that attract both Media Interest and Community Impact once the facility or property is no longer part of the production process and the land is potentially handed back to the community (Dalton et al., 1996).

It appears that companies under-report incident information because there is no or little risk of media interest or impacts on the local community suggesting most incidents are routine in that indigenous resources can be used to clean up the spill without the undue involvement of local, state or federal participation. The more detailed the reporting of a spill is conducted, the better the first responders can organize and manage their clean-up effort suggesting a longer initial incident report. The development of an organizational culture through the attraction – selection – attrition framework (Bretz Jr., Ash, & Dreher, 1989; Schneider, 1987) serves as a tool to align values, norms, and beliefs of the members of an organization so that we can assume that the displayed work values of the employees within the organization are similar. The organizational member reporting the spill is, therefore, a representative of the organization and its values, and the number of cases we found would signal that this attitude is persuasive.
throughout the industry. Much like the saying “character is what you do when nobody is looking,” the company displays that it cares much more how detailed the reporting of an environmental spill is conducted when there is a possibility that a spotlight will fall on them. If the spill is not in the public eye, or potentially hidden away on company private property, the reporting effort is much decreased.

REFERENCES


EQUITY RETURNS BEFORE AND AFTER THE 2007-08 FINANCIAL CRISIS: A STUDY OF SPILLOVERS AMONG MAJOR EQUITY MARKETS OF EUROPE AND THE USA

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Abstract
This paper investigates the linkages among equity market returns before and after the 2007-08 crisis using exchange traded funds (ETFs) in Germany, France, Italy, UK and the USA. Daily data used from January 2005 - September 2007 and July 2009 - July 2010 and apply to a Multivariate Autoregressive Moving Average model (MARMA). The data are divided into two separate periods: before the 2007-08 financial crisis and after the crisis. The results show the existence of significant co-movement of returns in all selected periods although some important differences before and after the financial crisis are noted such as marked increases in the integration of the markets and hence diminishing diversification opportunities for investors over time. Implications for the critical importance of understanding the transmission process between markets for risk management and economic policy are indicated.

Keywords: co-movement of returns, portfolio diversification, exchange traded funds

JEL: G11, G15, C58

1 An earlier and more comprehensive version of this paper was published in 2017 by “Zagreb International Review of Economics and Business” See Dedi & Yavas, 2017.
INTRODUCTION

Markets across the world have begun to experience a growing foreign presence. Investors, heeding the advise of their money managers have moved part of their portfolios to countries other than their own. The Wall Street Journal reported that about 20 percent of US nonfinancial shares were held by overseas investors (in 2015) compared to about 10 percent in 2000 (WSJ-March 28, 2016). Similar trends are observed in the UK (54% foreign ownership in 2014), in Germany (64%) and Japan (32%). However, increased foreign presence in equity markets globally may be one of the main reasons why they tend to move together in recent years. Since the 1980s, more and more money was flowing across borders; capital markets were becoming increasingly integrated. Since the 2007-2008 financial crisis, however, this particular aspect of globalization, closer integration of equity markets has slowed. The slowdown may partly be a consequence of events in the euro zone, where the sovereign-debt crisis caused banks to cut back their lending to weaker economies such as Greece, Portugal, Italy and Spain. If we were to add up all financial flows, including direct investment, in 2015 cross-border volumes were only half 2007’s level (Economist, December 17, 2016). As quantitative easing (QE) in the US and later in the EU has demonstrated, as major central banks lower the rates to negative territories investors would be driven into riskier assets all across the developed world. Expectedly, policy makers and investors become more worried about the potential instabilities caused by intensified capital movements. On the one hand, such free capital movements are deemed helpful to investors interested in diversifying their portfolios and increasing their returns by having access to faster growing markets. On the other hand, however, there is a possibility that faster growing emerging countries with less sophisticated financial markets and weak regulation can mismanage these funds. Generally, stocks, bonds, and property are subject to wild swings in value. When capital moves across borders, these swings are amplified by such things as the lack of knowledge of domestic institutions and exchange-rate risk. Therefore, the growth in the global integration of financial markets has given rise to many studies that investigate the mechanism through which equity market movements are transmitted around the world. These studies make it clear that while real economic conditions and equity market performances are linked, the performance of equity markets also vary based on international factors, so that market performance is not perfectly correlated across countries (Kiymaz, 2002; Yavas & Rezayat, 2016; Yavas & Dedi, 2016). They also indicate that the markets become more closely correlated with unexpected events or shocks (Rezayat & Yavas, 2006; Gray, 2009).

The main idea is if equity markets have become more integrated (due to increasing foreign ownership, easing of financial restrictions across nations and globalization), then an
unexpected event in one market may influence returns in other markets. Therefore, in this paper, we seek to explore price linkages between USA and selected European markets by utilizing broad equity market index based ETFs with the main objective of contributing to the literature on the linkages among international equity markets in different periods of volatility as manifested by the 2007-08 financial crisis. In examining the return co-movements in county equity markets, we seek to understand both if there are differences in different time periods in terms of equity returns and if there are opportunities for international investors/traders to earn a better return for a unit of risk.

From investors’ perspective, a better understanding of how markets move together may result in superior portfolio construction and hedging strategies, while helping policy makers (especially central banks) gain an understanding of the processes and consequences of such spillovers. In other words, shedding more light on the information transmission process among equity markets is important for both micro (asset valuation and risk management) and macro (economic policy and risk management) agents. It is important that market interrelations and connectedness are well understood. If not, the results could include implementation of inadequate or even counterproductive regulatory policies.

Even though we have chosen to include in our sample major European countries and the USA due to their closer interaction, two recent papers, one from the IMF and one from the Bank for International Settlements (BIS), reveal the extent of the return co-movements over the past decade in Asia. The IMF estimates that the correlation between the Chinese stock market and those in other Asian countries has risen to more than 0.3 since June 2015 (1 is a “perfect” correlation), double the level before the global financial crisis. That is still below the 0.4 correlation between America and Asia, but the gap is closing fast. According to the BIS, Asian equities track swings in the Chinese market about 60% more closely since the crisis. (Arslanalp, et.al., 2016).

This present paper uses Exchange Traded Funds (ETF) instead of benchmark indices. ETFs have lately experienced tremendous growth became the preferred investment vehicles of global investors and hedge funds (Vanguard, 2016). Investors can diversify risks and obtain benefits from foreign markets by investing directly in the foreign security market or indirectly in Exchange-Trade Funds (ETFs). Huang and Lin (2011) studied direct and indirect (ETF) investments and found that there are no significant performance differences between direct and indirect methods even if different performance measures are used. Khorana et al. (1998) and Tse and Martinez (2007) investigate the returns on international ETFs and conclude that ETF returns closely track their respective country indices. Thus, country ETFs and broad based
country markets indices are comparable. The advantage of using the ETF data is that one can mitigate if not entirely avoid some substantial problems that arise in traditional academic research such as exchange rates volatility, divergences in the national tax systems, diversities in stock exchange trading times and bank holidays, restrictions on cross-border trading and investments, and transaction costs. Since the ETFs used in this study are all equity ETFs representing broad equity market indices the paper uses “equity returns” and “ETF returns” interchangeably (Dedi and Yavas, 2017).

LITERATURE REVIEW

It is clear that, in the context of portfolio allocation/diversification and risk management, financial markets deserve in depth study. Both institutional and individuals make investment decisions that are influenced by perceived risk/return trade-offs. The implication is that if equity returns are not highly correlated and there are no significant return spillovers, then international diversification of investment portfolios would produce benefits since investors can reduce risk without affecting the returns. On the other hand, if equity markets move together then gains from diversification may be small. Portfolio managers would want to have a better handle on the interactions between all equity markets so that they can evaluate market risk and hedging strategies. In addition, economic policymakers (especially central banks) that are concerned about the smooth functioning of financial markets have a keen interest in destabilizing effects of equity market contagion.

Much of the earlier research in international stock markets concentrated on spillover of the co-movement between returns (Bekaert et al., 2009; Kim and Langrin 1996; Rezayat and Yavas 2006; Yavas and Rezayat, 2008). These studies found low but increasing correlations across some country equity markets providing attractive diversification opportunities. Sakthivel et al. (2012) studies correlation and volatility transmission across stock markets of USA, India, UK, Japan, and Australia and found long run co-integration across international stock indices. Diebold and Yilmaz (2011) provide an empirical analysis of return and volatility spillovers among five equity markets in the Americas: Argentina, Brazil, Chile, Mexico and the U.S. Their results indicate that both return and volatility spillovers vary widely. Return spillovers; however, tend to evolve gradually, whereas volatility spillovers display clear bursts that often correspond closely to economic events. Li & Giles (2015) examines the linkages of stock markets across the USA, japan and six Asian developing countries: China, India, Indonesia, Malaysia, the Philippines, and Thailand. Their results show significant unidirectional shock and volatility spillovers from the US market to both the Japanese and the Asian emerging markets.
They also find that the volatility spillovers between the US market and the Asian markets are stronger and bidirectional during the Asian financial crisis.

Turning next to the financial crises and the market contagion, Kenourgios et al. (2011) investigate market co-movements on four emerging and two developed markets during five different financial crises and find significant results confirming the contagion phenomenon. Syllignakis and Kouretas (2011) also find increasing returns correlation among mainly Central and Eastern European (CEE) emerging markets and the US, Germany, and Russia during financial crises and argue that this result is mainly due to herding behavior in the financial markets. Slimani et al., (2013) find evidence that interrelationship among European markets increased substantially during the period of 2007-08 crisis, pointing to an amplification of spillovers. Interestingly, they find that French and UK markets herded around German market. Dungey and Martin (2007) study both return and volatility spillovers across different equity and currency markets during the East Asian crisis. Their results show that the volatility spillover effects are relatively larger than return spillovers. Focusing mainly on BRIC’s stock markets (Brazil, Russia, India, China), and using M-GARCH model Aloui et al.(2011) show strong evidence of dependence between markets during the financial crisis. Orlowski (2012) studies the proliferation of risks in US and European financial markets prior to and during the crisis. His results show important levels of volatility during financial distress and a significant increase of risk in only three markets: Germany, Hungary, and Poland. Kenourgios and Samitas (2011) analyze long-term relationships between Balkan emerging markets and various developed markets during the global financial crisis. Their results show an increase of stock market dependence during the period of turmoil. Comparing the level of correlation of returns between pre-crisis and crisis period, Bartram and Bodnar (2009) point out an increase of correlation within a regional market during the 2007-08 crisis. Demiralay and Ulusoy (2016) provide additional empirical evidence that the correlation levels increase during financial crises. Similarly, Gray (2009) found financial contagion among emerging EU countries and their linkages strengthen after the 2007 crisis.

In summary, there are reasons to expect differences in transmission of returns and volatilities between different time periods such as before and after financial shocks. One is the “herding” behavior, and the other is “hunkering down” after financial shocks. This is so because when there is turmoil in the financial markets, investors and traders have a tendency to dump securities indiscriminately resulting in the fall of prices across the board. That is, prices fall regardless of company and/or industry specific characteristics both domestically and across borders. In the industry, this is referred to as risk-on/risk-off behavior. Therefore, many
empirical studies find correlations, in general, to be much more elevated during the crises than they are before the financial crisis. The observed rise in correlations between asset markets in both developed and developing/emerging markets indicates an increased likelihood of spillovers in periods of stress.

The effect of financial linkages on return co-movements during normal times, on the other hand, is the opposite of the effect during crises. During normal periods, increased financial linkages allow capital to move to where it is most productive allowing its holders to increase returns and the recipients to increase output. The key, then, appears to be preserving the benefits of financial integration while minimizing the risks through better oversight, regulation and better policy coordination and collaboration.

The present paper also studies return spillovers, but it addresses several gaps found in the literature. First, instead of using stock market indices like most of the existing literature, we utilize ETFs in this study. We also use daily data as opposed to the weekly or monthly data used in other studies. While weekly/monthly data can have advantages in terms of limiting “noise” daily data provide a larger number of observations. We study multi-directional flows whereas most of the literature focuses on uni-directional flows.

By dividing the data into two separate time periods, we not only seek to study intermarkets return spillovers but also investigate the question of how these spillovers are affected by the economic and financial shock to the global equity markets. As such, we test indirectly the hypothesis that financial contagion among the US and the major European markets strengthen after the 2007-08 crisis.

DATA AND METHODOLOGY
This study utilizes Exchange Traded Funds (ETF) instead of market indices. ETFs are arguably one of the most versatile of financial instruments that invest mostly in corporate and sovereign liabilities with the intention of replicating the returns of a market index. This paper utilizes iShares MSCI Capped/Core Equity ETFs (all Equity ETFs used in this research are issued by iShares). “iShares” is the largest ETF provider in the world. Selected ETFs seek to track the investment results of a particular index. The MSCI Index was created by Morgan Stanley Capital International. Each MSCI Index measures a different aspect of global stock market performance.

The data period is from January 1, 2005, to September 12, 2007, and from July 1, 2009, to July 2, 2010, all together a sample of 930 daily returns on the following ETFs: 1. The iShares
MSCI United Kingdom ETF (EWU) seeks to track the investment results of an index composed of U.K. equities. 2. The iShares MSCI Germany ETF (EWG) tracks the performance of publicly traded securities in the MSCI Germany market index. 3. The iShares MSCI France Capped ETF (EWQ) seeks to track the investment results of a broad-based index composed of French equities. 4. The iShares MSCI Italy Capped ETF (EWI) seeks to track the investment results of a broad-based index composed of Italian equities. 5. The iShares MSCI USA Core S&P 500 ETF (IVV) seeks to track the investment results of an index composed of large-capitalization U.S. equities S&P 500 (BlackRock, 2015).

To split our data into two periods (before and after the crisis or pre- and post crisis period), we needed to determine the beginning and ending date for the crisis period. Many researchers determine the date of the beginning of the crisis based on major economic and financial events (Forbes & Rigobon, 2002; Dungey & Martin, 2007). Olbrys and Majewska (2014) studied returns in four major markets and concluded that S&P 500, FTSE 100, CAC 40 and DAX indices started their decline on October 2007 through February 2009. Bartram and Bodnar (2009) presented a detailed timeline of events and policy actions for the crisis in equity markets. They stressed that at the beginning of Oct 2007 world equity markets measured at an all-time high USD market capitalization of more than $51 trillion as of this date, whereas by the end of Feb 2009, global equity market capitalization stood at just over $22 trillion, that is, it dropped off more than 56%. However, the Lehman collapse on Sept 15, 2008, has been a key event; they concluded that for their purposes the beginning of the crisis period being defined as the close of markets on Friday, Sept 12, 2008. It took a year for the financial crisis to come to a head, but it did so on 15 September 2008 when the US government allowed the investment bank Lehman Brothers to go bankrupt. Finally, the National Bureau of Economic Research has concluded that the recession ended in June 2009 (http://www.nber.org/cycles.html). In this paper, we follow Bartram and Bodnar (2009) and split our data into pre-crises (January 1, 2005-September 12, 2007) and the post-crisis (July 2, 2009- July 1, 2010) periods.

By concentrating the analysis on ETF data, we can mitigate if not entirely avoid some substantial problems that arise in traditional academic research such as exchange rates volatility, divergences in the national tax systems, diversities in stock exchange trading times and bank holidays, restrictions on cross-border trading and investments, transaction costs. Designed to mimic the movements of MSCI indices, ETFs provide an easy pool of international diversification products for an investor.

To study co-movements of daily returns, we utilized the Multivariate Auto Regressive Moving Average (MARMA). MARMA models combine some of the characteristics of the
univariate autoregressive moving average models and, at the same time, some of the characteristics of regression analysis. A MARMA model deals with an output time series $Y_t$, which is presumed to be influenced by a vector of input time series $X_t$, and other inputs (factors) collectively grouped and called “noise,” $e_t$. The input series $X_t$ exerts its influence on the output series via a transfer function, which distributes the impact of $X_t$ over several future time periods. The objective of the transfer function modeling is to determine a parsimonious model relating $Y_t$ to $X_t$ and $e_t$ (Makridakis et al. 1998). The transfer function model, in general, may be represented as:

$$
\varphi (L)Y_t = \omega (L) X_t + \theta (L) e_t
$$

where $\varphi (L)$, $\omega (L)$, $\theta (L)$ are polynomials of different orders in L. Polynomial $\varphi (L) = (1 - \varphi_1 L^{-1} - \varphi_2 L^{-2} - \ldots - \varphi_p L^{-p})$ represents autoregressive part of order $p$, “L” denotes lag, $L^1 Y_t$ represents $Y_{t-1}$, and polynomial $\theta (L) = (1 - \theta_1 L^{-1} - \ldots - \theta_q L^{-q})$ represents moving average part of order $q$.

## FINDINGS

Tables 1 and 2 below summarizes MARMA results.

### Table 1. Co-movements of daily ETF Returns (before crisis period 01/01/2005 – 09/12/2007)

<table>
<thead>
<tr>
<th>$r_{t(France)}$</th>
<th>$r_{t(Germany)}$</th>
<th>$r_{t(Japan)}$</th>
<th>$r_{t(US)}$</th>
<th>$r_{t(Italy)}$</th>
<th>$r_{t(UK)}$</th>
</tr>
</thead>
<tbody>
<tr>
<td>$0.523 r_{t(Germany)} + 0.219 r_{t(UK)} + 0.251 r_{t(Japan)} + 0.067 r_{t(US)} + 0.043 r_{t(Italy)} - 0.024 r_{t(France)} + e_t$</td>
<td>$0.786 r_{t(France)} + 0.234 r_{t(Japan)} + e_t$</td>
<td>$0.410 r_{t(France)} + 0.213 r_{t(UK)} + 0.260 r_{t(Germany)} - 0.064 r_{t(US)} + e_t$</td>
<td>$0.539 r_{t(Germany)} + 0.319 r_{t(UK)} + 0.099 r_{t(US)} - 0.049 r_{t(Japan)} + e_t$</td>
<td>$0.395 r_{t(France)} - 0.321 r_{t(US)} + 0.104 r_{t(Germany)} + e_t$</td>
<td>$0.343 r_{t(UK)} + 0.367 r_{t(US)} + 0.225 r_{t(Germany)} + 0.165 r_{t(Japan)} + e_t$</td>
</tr>
</tbody>
</table>

### Table 2. Co-movements of daily ETF Returns (after crisis period 07/01/2009 – 07/02/2010)

<table>
<thead>
<tr>
<th>$r_{t(France)}$</th>
<th>$r_{t(Germany)}$</th>
<th>$r_{t(Japan)}$</th>
<th>$r_{t(US)}$</th>
<th>$r_{t(Italy)}$</th>
<th>$r_{t(UK)}$</th>
</tr>
</thead>
<tbody>
<tr>
<td>$0.481 r_{t(Germany)} + 0.411 r_{t(UK)} + 0.138 r_{t(Japan)} + 0.067 r_{t(US)} - 0.136 r_{t(Germany)} + 0.093 r_{t(Japan)} + e_t$</td>
<td>$0.725 r_{t(France)} + 0.176 r_{t(UK)} + 0.081 r_{t(US)} + e_t$</td>
<td>$1.004 r_{t(France)} + 0.083 r_{t(US)} + e_t$</td>
<td>$0.460 r_{t(France)} + 0.343 r_{t(Germany)} + e_t$</td>
<td>$0.334 r_{t(Japan)} - 0.367 r_{t(US)} + 0.225 r_{t(Germany)} + 0.165 r_{t(Japan)} + e_t$</td>
<td></td>
</tr>
</tbody>
</table>

The results of the analysis show the existence of significant co-movement of returns among the countries in the sample in all both selected periods. There were also some important differences before and after the financial crisis. In general, the role played by US returns has changed after the crisis in the German and the UK markets compared with the pre-crisis period.

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France: Before and after comparisons indicate that the French returns are affected by the returns of all of the other countries in the sample before and after the crises. This implies that the French market pre-crisis and post-crisis moved together with the other markets limiting diversification opportunities. The differences between pre and post crisis include French returns negative relationship with one period lagged returns from Germany. However, with respect to French returns, there are not discernable differences among the pre and post crisis returns as they relate to other markets in the sample.

Germany: Returns in Germany move together with returns from France and Italy pre-crisis with returns from the UK and the US being absent, the picture changes post-crisis: while French returns continue to move with the German returns, the Italian returns disappear after the crisis and are replaced by returns from UK and USA. The implication is that while German and British, and German and American investors could realize diversification benefits pre-crisis, such opportunities diminished after the crisis when both the British and the US markets started to move together with the German market. On the other hand, the opposite occurred with respect to German and Italian investors. That is, Italian and German investors could realize diversification benefits post crisis but not before the crisis.

Italy: Returns from France, UK, and Germany move in the same direction with the Italian returns before the crisis (with the US returns being negatively related). However, the after crisis equation does not include Germany and UK while the US returns move in the same direction with the Italian returns after the crisis. These results imply that the Italian market provided diversification opportunities for American investors only (pre-crisis) and German and British investors (post crisis). It is interesting to note that the Italian market moved together with the other European markets before the crisis but became disjointed from the German and British markets after the crisis.

UK: Pre-crisis UK returns move in concert with the returns from the other markets included in this study. The only exception is Germany. However, German returns become positively related to the UK returns after the crisis. Similar to the analysis of the Italian market, the UK market returns became less correlated with the other markets. In particular, given that the returns from the US and Italy do not appear in the UK equation, investors from these countries may benefit from diversification by investing in the UK.

USA: In the pre-crisis period, both French and German returns move in the same direction as the US returns. US returns are also affected by their own past period returns. Thus, US market may provide diversification opportunities for for UK and Italian investors. However,
opportunities for diversification diminish after the crisis for Italian investors. Post-crisis US returns move in the same direction as German and Italian returns thereby providing diversification benefits for the French and the UK based investors.

Based on the results of the analysis it is difficult to argue that markets become more integrated post-crisis. For example, the findings show that

a) French returns do not change in terms of their movement with other markets
b) German returns start moving in the same direction as the returns from the UK and the USA, implying greater integration post crisis.
c) Italian returns continue their positive association with the neighboring France but become disjointed with Germany and UK post crisis while starting to move with the US returns.
d) Returns from the UK start moving in the same directions as the returns from Germany post crisis but become unrelated to returns from Italy and the US.
e) Finally, returns from the USA continue to move in the same direction as the German returns both periods, but the French returns (pre-crisis) are replaced by Italian returns (post crisis).

CONCLUSIONS
This paper studied the transmission of equity ETF returns among five equity markets (The US and four major European markets) using daily data from January 2002 to March 2014. A multivariate autoregressive moving average (MARMA) model was used to identify the source and magnitude of return spillovers in two different time periods: Before 2007-2008 financial crisis and after the crisis. We found that there are significant co-movements among ETF returns. However, not all county specific ETF returns move in unison, and a significant opportunity for portfolio diversification exists by identifying, and investing in, ETFs that do not move together. We also found that opportunities for portfolio diversification existed both before the crisis as well as after the crisis even though the beneficiaries would be from different countries. In other words, findings of this study did not confirm the widely held hypothesis that the equity markets become more integrated after and economic/financial shock. It should be mentioned that the results might be dependent upon the choice of the time period (pre and post crisis) periods.

In any case, the findings are important for policymakers in the sample countries for understanding the markets’ co-movements and designing policies. As hedging becomes another area of interest for investors, its importance is expected to grow as a vehicle as important as asset allocation. New ETFs are created daily to be used as a hedge against a risk of market

http://dx.doi.org/10.21607/jmsm.2017.0007
meltdown. The main idea would be to allow investors to benefit from sudden spikes in volatility while keeping the ETFs overall costs down (Economist, 2012). It is clear that innovation in both ETFs and their volatilities continue. In December 2012, iShares launched a series of new ETFs that are designed to provide exposure to equities with less risk, done by choosing stocks that have been less volatile than the overall market (Economist, 2013).

Finally, the knowledge of market co-movements during different time periods such as before and after financial crises could be used by various economic actors to fine-tune their investment and/or macro finance strategies.

REFERENCES


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