

CORPORATE SOCIAL RESPONSIBILITY AND LINE OF BUSINESS  
INTEGRATION: A CASE STUDY OF STEM INVESTMENTS  
WITHIN TECHNOLOGY COMPANIES

by

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# **CHAPTER I**

## **Introduction**

While the corporate environment has historically prioritized achieving business objectives through performance and profit, society's expectation of their socially responsible behavior toward their employees, stakeholders and communities has shifted and developed in the last decade. This far from fleeting trend has been given the name corporate social responsibility (CSR), and a plethora of research suggests that corporations need to pay close attention to how they engage and communicate their CSR efforts to their stakeholders and consumers because of its potential influence on corporate image, brand equity and even consumer attitudes and behaviors. According to Edelman's 2010 Goodpurpose study: "...67% of consumers say they are more likely to buy products and services from a company if they know it supports good causes" (as cited in Allen, 2011, p. 1).

While significant attention has been paid to CSR research in academia and specifically CSR's influence on bottom line and profitability, few researchers have considered how the strategy and type of CSR investment can influence its effectiveness and credibility. A growing trend in corporate investments appears to show an alignment between the company's business objectives and their community investment strategy; however, little to no research can be found on the return on investment of CSR and line of business integration. In the context of this study, "line of business integration" refers to aligning a business's corporate social responsibility efforts with the core competencies and expertise of the company and its employees. The influence of CSR and line of business integration must be quantified in order to further inform and guide the strategy



for CSR practitioners. For example, a significant number of technology companies have shifted their community investments from more general community impact to Science, Technology, Engineering and Math, or STEM initiatives. This move supports their business objectives and exhibits an investment in the growth and sustainability of their industry.

### **Objectives:**

In order to shed light on the effectiveness of CSR and line of business integration this study will adopt the following broad objectives through the examination of STEM investments within two major technology companies, 3M and Intel:

1. Examine the evolving concept of STEM as a strategic and aligned CSR investment within 3M and Intel.
2. Analyze the difference in approach, strategy, and implementation of STEM initiatives within Intel and 3M in order to reveal best practices and effectiveness in reaching corporate CSR goals.
3. Explore and compare the communication methods of STEM initiatives at 3M and Intel (social media, press releases, blogs)
4. Reveal possible correlations between strategic STEM investments and business reputation and performance.

With a focus on the preceding objectives, the researcher hopes to offer valuable insights to CSR practitioners on the effectiveness of CSR and line of business integration through the context and case study of STEM investments within technology companies.

## **Significance**

The significance of this research is supported by the nationwide trend of growing need for STEM skilled workers, coupled with the alarming trend of youth lacking interest and skill with regard to STEM. According to the U.S. Department of Education, “The United States has become a global leader, in large part, through the genius and hard work of its scientists, engineers and innovators. Yet today, that position is threatened as comparatively few American students pursue expertise in the fields of science, technology, engineering and mathematics (STEM) - and by an inadequate pipeline of teachers skilled in those subjects” (ed.gov). As STEM has been elevated as a priority with the Obama Administration, and the technology industry continues its effort to grow and innovate the next new product, STEM education will remain important to the stability and sustainability of the industry. For this reason, it is integral to further explain, analyze and quantify STEM investments as a CSR strategy, and more broadly guide CSR practitioners on the strategy of CSR and line of business integration.

## **Background**

**Corporate social responsibility.** While socially responsible behavior on the part of a business is difficult to trace, corporate social responsibility as a defined business objective was most robustly explained by Carroll (1991) who introduced the concept as a fourfold expectation of economic, legal and philanthropic responsibilities. While there are innumerable definitions of the concept as it has developed into a household name in the last decade, according to the Harvard Kennedy School, CSR “addresses how companies manage their economic, social, and environmental impacts, as well as their relationships in all key spheres of influence: the workplace, the marketplace, the supply

chain, the community, and the public policy realm”. The term is often used interchangeably with other terms such as “corporate citizenship,” “sustainability,” and “corporate ethics,” although each can also carry unique meanings and intricacies.

**STEM (Science, Technology, Engineering and Math).** STEM education; also known as Science, Technology, Engineering and Math has garnered increasing attention over the past ten years by both the Obama administration and education experts. In 2009, the President launched the Educate to Innovate initiative to increase STEM performance within American students and prepare them for employment in the modern workforce ([whitehouse.gov](http://whitehouse.gov)). As the government has elevated the need for STEM education improvement and voiced concern over the U.S.’s lagging performance in comparison to other countries, corporations have begun to recognize it as a strategic investment for the future. According to Jeffrey Immelt, Chairman of General Electric, “for any company or country to stay competitive, they need two things: talent and technology. The foundation for both is a real investment and commitment to STEM education” (Steir, 2013). This increasing need and attention paid to STEM by both corporate and government entities justifies the need to further study its effectiveness as a CSR strategy.

### **Company Profiles**

This study will examine the CSR communication strategies of Intel and 3M through examination of their websites, annual CSR reports, press releases, blogs and social media. The historical context for each company is important to reveal where they came from and how their strategies have evolved over time.

**Intel.** Intel, a U.S. based microchip technology producer, is a company which aims to “create and extend computing technology to connect and enrich the lives of every person on earth” (Intel.com). Founded in 1968, by two scientists who aimed to create memory technology, Intel soon became known for the innovation of the first microprocessor in 1971. By 1980, they had developed the two top-selling microcontrollers in the world and surpassed one billion in annual revenue for the first time. By the early 1990s, Intel became a household name when their “Intel Inside” logo won the front row spot on more than eighty five percent of consumer desktop PCs. While Intel largely utilizes a business-to-business sales model in marketing their chips and microprocessors to potential partners, they have recently introduced new direct to consumer products. In order to keep up with the overwhelming advances of technology in the millennium, Intel jumped into the cellular market in 2003 with the introduction of a cellular processor. More recently, Intel has introduced its own version of the laptop, called the “Ultrabook” which boasts touch screen technology, longer battery life, and thinner designs. Today, Intel remains headquartered in California, employees more than 82,000 people worldwide, and had record earnings last year of more than \$53 billion.

Intel embeds its corporate social responsibility efforts within the fabric of its business model and believes that doing the right things the right way creates value and strengthens their position as a global technology business leader (intel.com). Their CSR initiatives are driven by their desire to care for their people, care for the planet, and inspire the next generation. While a significant percentage of their CSR investments lie in STEM education, in 2011, Intel specifically took on the focus of bringing technology and science education to women around the world. Through this initiative, they support

teacher training in science and technology as well as an international science and engineering fair with the purpose of instigating STEM interest within youth. In 2012, Intel invested more than \$106 million in the CSR efforts, approximately .7% of their net income. Their future CSR goals lie in expanding education programs in 100 countries and increase awareness and investment of women in STEM.

**3M.** 3M envisions itself as a business where its technology advances every company, its products enhance every home and its innovation improves every life. Founded in 1902 in Two Harbors, Minnesota as Minnesota Mining and Manufacturing Company, the company began with the innovation of sand paper in 1906 and quickly advanced to the development of adhesives and Scotch tape by 1925. By 1961, the company had expanded in 12 countries and began development of respiratory protection products that were used in Neil Armstrong's first moon walk in 1969. In the early 1980s, the company developed trademark products like the Post-It and magnetic film and moving into the 2000s, they began developing innovative electronic technology like the LED-illuminated projection engine and solar mirror film. Today 3M has more than 85,000 employees and operates in more than 60 countries to continue their mission to design innovative new technology.

As one of the first manufacturing companies to address environmental issues in 1975, 3M holds a strong reputation and legacy for their commitment to their stakeholders and the communities they serve. 3M's corporate social responsibility agenda is guided by their vision "to actively contribute to sustainable development through environmental protection, social responsibility and economic progress. That means meeting the needs of society today, while respecting the ability of future generations to meet their needs"

(3m.com). In 2013, 3M launched its strategic philanthropy and global community engagement plan under the overall framework of *3MGives*. This CSR strategy encompasses their corporate and foundation philanthropy as well as in-kind donations and volunteerism. *3MGives* established six investment focus areas, which include: K-12 education, Science Plus, college and university, health and human services, arts and culture and the environment. The mission of *3M Gives* was created to mirror their corporate vision: “to improve ever life by giving in education, community, and the environment.” The *3MGives* strategy is also included in the company’s sustainability policies and noted in their annual sustainability report as a stakeholder in their business success. The sustainability report specifically highlights the company’s STEM initiatives across the U.S. and the world. Since 1953, 3M has invested more than \$1.3 billion dollars in the communities they serve and continues that legacy under the goals of *3MGives*.

The subsequent chapters of this research (II, III , IV) will cover the in- depth exploration of the topic at hand. Chapter II will provide theoretical perspective and a review of the available literature pertaining to the research subject. Chapter III will outline and specify the methodologies used to arrive at the answers to the stated research objectives. Chapter IIII will present and explain the results of the research as well as offer an in depth discussion on the application, significance and opportunities to expand on the current findings through future studies.

## **CHAPTER II**

### **Theoretical Background**

While the interests of consumers and shareholders have long been prioritized from a business management perspective, Freeman (1984) broadened the concept of stakeholders and introduced urgency in maintaining and managing their relationships with the introduction of his stakeholder model. The theory was swiftly adopted because of its broad applicability to multiple business objectives and topics. Freeman defines a stakeholder as anyone who can affect or may be affected by the actions and decisions of a business (Freeman, 1984). This definition assumes value to employees, society, and the community in lieu of an unbalanced focus on shareholders or stockholders. Freeman also suggests positive implications of strong stakeholder relationships to furthering the mission and objectives of the business.

In support of Freeman's stakeholder approach, Donaldson and Preston (1995) identify further evidence and validity of the stakeholder model and suggest its broad applicability in driving business strategy and objectives. They classify three justifications for the theory: descriptive accuracy, instrumental power, and normative validity (Donaldson and Preston, 1995). They argue that the theory's strength is based in its balance of the preceding characteristics, and that specifically its normative validity offers strong managerial implications for corporate strategists. They also point out that while there are a number of indicators suggesting the impact of stakeholder management on corporate performance, this characteristic alone does not validate the theory without the support of its descriptive and instrumental qualities (Donaldson and Preston, 1995). Another prominent voice in the evolution of the stakeholder theory, Mitchell, Agle and

Wood (1997) contributed three additional elements to further strengthen and validate the theory: power, legitimacy and urgency.

In recent history, the stakeholder theory has evolved as a fundamental background of corporate social responsibility research, further emphasizing the role of CSR in building stakeholder relationships, which can ultimately affect corporate performance. Recently, Brower and Mahajan (2013) applied the stakeholder theory to further explain and predict the drivers of high corporate social performance. In their study of 447 firms, they hypothesized that increased impact of stakeholder's demands from a firm can lead to greater corporate social performance breadth. The results of their research suggest that businesses which are sensitive to stakeholder needs and balance a wide variety of stakeholder demands have increased range of corporate social performance because they are working to create value for said stakeholders (Brower and Mahajan, 2013). Similarly, Sen and Cowley (2013) examined the stakeholder theory in the context of small to medium corporate social performance. Unlike larger corporations, the researchers found that stakeholders had very little influence on the CSR strategies of businesses included in the study, and the ones that did have influence were found to be of lower salience (Sen and Cowley, 2013).

In addition, some researchers have utilized the stakeholder theory to imply that CSR initiatives have the potential to give a company competitive advantage. Hillman and Keim (2001) argue that building strong relationships with primary stakeholders increases internal value and resources, which can translate to higher external performance. Andriof and Waddock (2002), on the other hand, argue that building strong relationships and mutually beneficial dialogues with stakeholders is a stronger approach than managing



them. They also suggest that strong stakeholder relationships with communities and individuals can offer a competitive advantage to the company in a CSR context. While the stakeholder theory has been widely adapted and applied in business strategy, it presents a strong guiding principle for CSR strategy and can potentially contribute to this research project by further explaining and predicting the effectiveness of corporate social responsibility and line of business integration.

### **Literature Review**

Scholars have paid close attention to CSR research in the last few years, as businesses have become more aware of the implications of their corporate social performance and thus have given increasing time and talent to their CSR strategy. The early concept of corporate social responsibility was first introduced in 1932 after the Wall Street crash of 1929 where it was evident that a number of companies were practicing poor ethics and lacking social responsibility. Berle and Means (1932) argued the value of transparency and responsibility to stakeholders, which was the first introduction of the CSR strategy that has now been adopted across most business industries small and large. While there are endless definitions of the CSR concept, according to McWilliams and Siegel (2001 p.1), CSR is “situations where the firm goes beyond compliance and engages in actions that appear to further some social good, beyond the interests of the firm and that which is required by law.” While others offer specificity in the attributes of CSR, McWilliam’s definition encompasses the broader concept and philosophy of CSR, which will be discussed in this paper.

Today, a number of researchers have examined how CSR influences brand equity, or the value behind a well-known and liked brand (Lai et al. 2010; Torelli et al., 2011;

Hsu 2012; Raman et al., 2012). For example, Lai et al. (2012) hypothesized that CSR would have positive influence on brand equity and brand performance. By conducting a survey in the Taiwan manufacturing industry, they found support for their hypothesis in that CSR improves corporate reputation, which enhances brand equity. Torelli et al. (2011), on the other hand discovered that CSR can also elicit negative evaluations of brand equity in their study of CSR in luxury brands. Results revealed that the communication of CSR engagement from luxury brands with a self enhancement concept actually caused a decline in customer brand evaluations because the CSR communicated is in conflict with the brand concept. Taking a more narrow approach, Hsu (2012) studied CSR implications in the Lithuanian life insurance industry specifically. His results indicated a positive relationship between CSR and increased brand equity; however, the study was very limited and could not be generalized to any life insurance market. Raman et al. (2012) actually hypothesized against CSR's influence on brand equity, but the results of his survey of customers in Malaysia disproved their hypothesis, showing a positive relationship between the two. The results of the preceding studies indicate the need for further and broader research, specifically in U.S. markets, but also reveal that the concept of the brand, product or industry can influence how CSR communication is perceived.

While many researchers focus on the relationship between CSR and brand awareness, another large subset of research focuses on CSR's influence on customer's attitudes and behaviors. These studies often relate consumer response back to an increased brand equity or corporate image due to the socially responsible actions of a company. Rizkallah (2012) examined the possible influences of company communicated

CSR on the feelings and attitudes of consumers and hypothesized that CSR can have an effect on the relationship between the customer and the consumer. Her results suggest that while few participants cite CSR as their reason for being loyal to a brand (cost and value were highest), still many indicated they would be willing to pay more for a brand with strong CSR, which supports the original hypothesis that CSR can have the power to adjust attitudes or behaviors in consumers. Another interesting concept arising from CSR research is the CSR Halo Effect, examined by Smith, Read and Lopez (2010). They hypothesized that socially responsible behavior is subject to a halo effect where consumer awareness of one CSR initiative can influence their perception of other CSR performance that they know nothing about. Their results supported their hypothesis in that participants who were exposed to engagement in one CSR initiative rated engagement in other CSR initiatives higher than those who were exposed to the control (no CSR engagement). These results provide interesting insight for businesses that may have little CSR involvement, but can reap benefits of high involvement from customer awareness of one socially responsible initiative. Finally, Romani, Grappi, and Bagozzi (2013) made the intriguing connection between customer gratitude and advocacy behavior with CSR as a mediator. Their results showed that company CSR involvement evoked gratitude within customers, which subsequently improved advocacy or positive word of mouth for the brand or company.

Another influential set of research on the topic of CSR includes the investigation of the relationship between CSR and company image or identity. While similar and partially inclusive of brand equity, corporate image uniquely suggests how CSR influences the corporate and consumer identification of a brand. Virvilaite and Daubaraite

(2011) examined this relationship to identify the role of CSR in forming corporate image and discovered that customers most valued ethical and legal CSR efforts over philanthropic and economic efforts. Vanhamme, Lindgreen, Reast, and Popering (2012) looked at the potential for CSR in improving corporate image. Their results revealed that consumers identify more with primary need causes, an international CSR scope, and with sudden causes rather than those with ongoing need. Finally, Bravo, Matute and Pina (2012) conducted a content analysis of Spanish financial websites to examine the role that CSR plays in defining corporate identity. Their results revealed that most banks did not make their CSR efforts a part of their corporate mission, but rather, included them in their corporate values, and most CSR efforts were focused around customers and the community.

As the role of corporate social responsibility in business practice continues to evolve, grow and materialize, researchers have begun to examine the importance of full integration into every aspect of business strategy, practice and culture. Katavic and Kovacevic (2011) introduced a framework to guide companies in integrating their CSR strategy within their business objectives and argue that it can improve competitive advantage. They identify globalization, intensity of competition, technology development and human capital as key attributes that can be positively influenced by CSR initiatives (Katavic et al., 2011). They also argue that considering the concerns of stakeholder groups (customers, employees, investors, and communities) when making business decisions is key to CSR integration and that all groups should be informed and well-educated about the businesses social initiatives (Katavic et al., 2011). Similarly, Dey and Sircar's (2012) study of CSR integration within Indian companies suggests that

successful CSR initiatives must present a mutual relationship between the business and its stakeholders. “CSR initiatives should be so integrated and internalized by the corporations that they are placed at the very heart of the business and not merely as an appendage to it” (Dey et al., 2012 p. 1). Their case study of Indian CSR initiatives illustrates the best practices of integrating CSR into the company’s core competencies, supply chain management, inherent values and partnering with non-governmental organizations. These strategies support a fully integrated CSR system, which has the potential to improve corporate reputation, employee retention and customer loyalty (Dey et al, 2012).

While the extensive literature on the value and significance of corporate social responsibility in business management validates it as a timely and essential research venture, there are gaps and inconsistencies that can be addressed. Scholars are beginning to examine the importance of integrating CSR into business objectives; however, none have yet to take it one step further to examine how the type of CSR investment influences the initiative’s effectiveness. This study hopes to shed light on this phenomenon by examining the effectiveness of CSR investment and line of business integration through a case study of STEM (science, technology, engineering and math) investments within technology companies.

### **Research Questions**

In order to address the preceding research gaps, this study hopes to reveal the strategies and best practices behind CSR and line of business integration by answering the following questions in the context of Intel and 3M:

*Q1: How has the concept of STEM as a strategic CSR investment evolved over time within 3M and Intel?*

*Q2: How does their approach, strategy, and implementation of STEM initiatives differ?*

*Q3: What are the differences and similarities in the way they communicate their STEM efforts to the public?*

*Q4: Are there any correlations between their STEM investments and business reputation or performance?*

## **CHAPTER III**

### **Methodology**

While corporate social responsibility has long been accepted by businesses as their duty to their stakeholders and communities, the strategy behind those investments are broad and difficult to uncover. This study attempted to reveal the effectiveness of one of those strategies, corporate social responsibility and line of business integration, through the analysis of STEM investments within 3M and Intel.

The case study approach was utilized to analyze the STEM related corporate social responsibility efforts of Intel and 3M. The case study method was selected as it allows for the in-depth analysis of a breadth of CSR related content in order to gain a comprehensive understanding of their CSR efforts and make suggestions as to the effectiveness of their STEM strategy. The same in-depth knowledge could not be gained by employing a traditional quantitative survey. In addition, the case study approach allows for analysis of two large international companies. The disadvantage of the case study approach is its subjective nature given that the information is analyzed through the interpretation of the researcher and the viewpoints of the interviewees. The researcher aimed to limit the subjectivity by only analyzing factual information and setting personal viewpoints aside. While the interviewee responses are also subjective, they add value to the research because they are experts in the CSR field and therefore, their opinions and interpretations have credibility.

Intel and 3M were selected as they are both leaders within the technology industry and have received recognition and accolades for their STEM related CSR efforts. The case study specifically examined their STEM (science, technology, engineering and

math) investments to analyze the effectiveness of aligning CSR initiatives with the business interests of the company. These companies were also selected for their significant regional presence in the greater Austin area, each employing more than 1,000 people locally and making a notable social footprint. The researcher's career in non-profit fundraising provides her with strong background knowledge on the landscape of corporate social responsibility initiatives within the greater Austin area. Her work experience also afforded access to employees with CSR industry expertise within each company for interviewee selection.

### **Data Gathering**

The case study was conducted through (1) examination of publicly available information about the companies and through (2) in-depth interviews with company executives.

Each company's annual CSR reports, websites, press releases, Facebook profiles and blogs highlighting their CSR and STEM initiatives were examined. This examination allowed the researcher to compare their STEM investment strategies while making note of major achievements, accolades, and possible effect on bottom line performance. Both companies have multinational CSR efforts within the various countries they operate in, and this study included multinational CSR efforts to the extent they involve STEM work.

The researcher supported the case study with two qualitative interviews from high level corporate communications employees, one from each company, to gain an insider's perspective on their STEM initiatives as a CSR strategy. The interviews were conducted in February of 2014, and each participant was asked the same ten questions (see



Appendix A). The interview questions were informed by the extensive literature review relating to CSR and STEM, and to best reflect the research objectives. The questionnaire is attached at Appendix A. The interviews lasted one hour or less and were recorded with the interviewee's permission in order to maintain accuracy. Their opinions and expertise provide further credibility to the data and offer a comparative analysis of the viewpoints of each interviewee. The names and titles of the interview candidates were kept confidential in order to ensure protection of their opinions and honesty in their responses.

The following methods were employed to provide insight on each research objective:

*Q1: How has the concept of STEM as a strategic CSR investment evolved over time within 3M and Intel?*

In order to answer Q1, the researcher utilized background information available on the company's public website, which included historical timelines and CSR investment history. The researcher also used the two primary interviewees to gather more detailed information regarding when, why and how STEM was implemented into each company's CSR strategy.

*Q2: How does their approach, strategy, and implementation of STEM initiatives differ?*

The methodology used to answer this question required examination of Intel and 3M's most recent annual CSR report (2012). These reports outline their investment strategy and results for the each calendar year, and for the purposes of this research the 2012 reports from each company were analyzed. The company interviewees also provided supporting information through their responses to the questions: (1) How do

Company (X's) STEM investments advance the company's mission and CSR goals, and

(2) Why were STEM initiatives adopted by Company (X)?. The researcher then compared the content of the CSR reports and the interviewee responses in order to shed light on their approach and strategy.

*Q3: What are the differences and similarities in the way they communicate their STEM efforts to the public?*

In order to answer this question, the researcher used publicly available information to compare the ways in which each company communicated their STEM investments. The researcher examined corporate blogs (more than 200 total) between January 2013 and December 2013 from each company to analyze the frequency of STEM as their subject matter. The researcher also examined corporate press releases and Facebook posts between January 2013 and December 2013 for subject matter regarding their STEM work. In addition, the interviewees provided supporting responses to the question: (1) How does Company (X) communicate its STEM initiatives with consumers and stakeholders?

*Q4: Are there any correlations between their STEM investments and business reputation or performance?*

The final question was answered using each company's annual 2012 CSR report and their publicly communicated business performance information for the same calendar year. The researcher compared their communicated CSR successes with their communicated business success to see if any positive or negative correlation could be identified between the two. The interviewees supported this research objective through

answering the question: “Do you see any correlation between Company (X)’s STEM efforts and business performance or employee retention?”

### **Definition of Terms**

For the purposes of this research the following terms are defined and explained:

**STEM (science, technology, engineering and math):** will include investments which include but are not limited to, any social responsibility investment encouraging the study and exploration of science, math and engineering and the use of technology to learn.

**CSR (corporate social responsibility):** will refer to a business’s commitment to improving quality of life for the community at large and their workforce, while contributing to economic development (World Business Council).

## CHAPTER IV

### Findings

In order to shed light on the effectiveness of the STEM investment trend within technology companies, the researcher analyzed the strategic STEM investments of technology industry leaders, Intel and 3M. The following results were acquired through both analysis of their most recent (2012) annual corporate social responsibility reports, websites, Facebook profiles and through in depth interviews with two leadership level employees at each company. The results are organized by research question, offer bulleted highlights, and an in depth explanation of the findings subsequently.

**Q1:** *How has the concept of STEM as a strategic CSR investment evolved over time within 3M and Intel?*

While their commitment to advancing science, technology, engineering and math is evident through both 3M and Intel's current CSR investments, their paths for reaching this point are distinct. One significant finding was that 3M has been invested in STEM for much longer than Intel. As evident in Table 1 below, the 3M Foundation was established in 1953 and is considered one of the earliest corporate foundations in the United States (3m.com). Their first STEM program, STEP (Science Training Encouragement Program) was implemented in 1973 with the goal of providing students in the St. Paul school district the opportunity to find passion for science through classroom instruction, paid 3M internships, and mentorship from 3M employees. Intel on the other hand, did not establish their foundation until 1988, and in 2000 their first STEM program, The Computer Clubhouse Network was introduced.

**Table 1: Evolution of CSR Investment**

Intel	3M
<ul style="list-style-type: none"> <li>• <b>1988:</b> Intel Foundation established.</li> <li>• <b>2000:</b> STEM initiatives introduced</li> <li>• <b>Vision:</b> Create and extend computing technology to connect and enrich the life of every person on Earth.</li> <li>• <b>1996:</b> Intel Involved Program introduced.</li> <li>• <b>1997:</b> ISEF (International Science and Engineering Fair)</li> <li>• <b>1998:</b> ISTS (Intel Science Talent Search)</li> <li>• <b>2000:</b> Computer Clubhouse Network implemented (First STEM initiative)</li> <li>• <b>2003:</b> Intel Teach launched</li> <li>• <b>Purpose for STEM work:</b> To utilize and align with skills and expertise of company workforce.</li> </ul>	<ul style="list-style-type: none"> <li>• <b>1953:</b> 3M Foundation established. One of the earliest foundations in the US.</li> <li>• <b>1973:</b> STEM initiatives introduced</li> <li>• <b>Vision:</b> To improve every life through innovative giving in education, community and the environment.</li> <li>• <b>1973:</b> STEP (Science Training Encouragement Program) introduced.</li> <li>• <b>1985:</b> Visiting Wizards</li> <li>• <b>1984:</b> TWIST (Teachers Working in Science and Technology)</li> <li>• <b>Purpose for STEM work:</b> To support lacking curriculum in public schools.</li> </ul>

**Sources:** Annual CSR report (2012), corporate website, study interviews

The two companies also had differing motives for implementing STEM into their CSR plans. According to the 3M interviewee, STEM programs were initiated to “supplement the core curriculum that teachers use with more innovative and fun learning tools so that kids can really connect with STEM subjects” (2014, Feb. 25) Personal Interview. While at Intel, STEM investments were made in consideration of Intel’s future workforce. “We want to create a pipeline of students that can continue to innovate in the U.S. and in other countries” (2014, Feb. 10) Personal Interview. While 3M has been invested in STEM for more than twenty years longer, and their motives are different, their overall CSR visions (see Table 1 above) exhibit parallel goals by using innovation and technology to “connect and enrich the lives of every person on Earth”

(Intel) and “to improve every life through giving in education, community and environment” (3M).

**Q2:** *How does their approach, strategy, and implementation of STEM initiatives differ?*

In order to reveal best practices of corporate STEM investments, the researcher analyzed their approach to STEM investments (how they align their investments with their business expertise), their strategy (how and where they divide and prioritize their STEM agenda), and their implementation (the types of programs introduced to elevate STEM literacy). Through in-depth analysis of 3M and Intel’s 2012 corporate social responsibility annual report and their CSR websites, a handful of significant trends became apparent in their approach to STEM investments: geography, sponsorships, in-kind donations, scholarships, teacher and school support, corporate volunteers and external partnerships (see Table 2 below).

***Table 2: STEM Approach, Strategy and Implementation***

<b>Intel</b>	<b>3M</b>
<ul style="list-style-type: none"> <li>• Investments are externally focused</li> <li>• Heavy on partnerships with other STEM oriented initiatives. (Stay with It Campaign, 10x10 campaign, American Society for Engineering Education)</li> <li>• Product donation</li> <li>• Focus on educating teachers (IntelTeach) on how to integrate STEM in the classroom</li> <li>• Focus on technology literacy for girls (10x10, Intel Learn Easy Steps course)</li> <li>• Intel Science Talent Search and Intel International Science and Engineering Fair</li> </ul>	<ul style="list-style-type: none"> <li>• Investments are mostly grant oriented (STEM ingenuity grants for teachers,</li> <li>• Investments are focused around schools in areas with 3M presence (Project Lead the Way, Destination Imagination)</li> <li>• Product donation</li> <li>• Discovery Education 3M Young Scientist Challenge</li> <li>• Scholarships</li> <li>• Focus on educating teachers (3M WordlyWise website, STEP-Science Training Encouragement Program, TWIST- teachers working in science and technology)</li> </ul>

<ul style="list-style-type: none"> <li>• Sponsorships (Lego League, First Robotics)</li> <li>• Global Impact- Intel World Ahead- improving digital literacy and access in more than 70 countries.</li> <li>• Percentage investment in STEM versus other CSR initiatives: (.7% or 106 million)</li> </ul>	<ul style="list-style-type: none"> <li>• Sponsorships (Lego League, Lego Challenge, First Robotics, PBS show “Newton’s Apple)</li> <li>• Engaging employees through science career talks (Visiting Wizards, 3M Tech Volunteers)</li> <li>• Teen based website for STEM Learning- Sparticl</li> <li>• Most focuses around St. Paul-headquarter location</li> <li>• Percentage Investment in STEM versus other CSR initiatives: (34% or 19.4 million)</li> </ul>
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**Sources:** Annual CSR Reports (2012), corporate website, study interviews

The majority of 3M’s robust STEM initiatives are focused around school districts and specifically those in the St. Paul, Minnesota area, where 3M is headquartered and employees more than 10,000 community members of St. Paul. Intel however, invests in STEM programming in more than 70 countries across the globe in order to create access and improve digital literacy in developing countries. As evident in Table 2 above, both companies use sponsorships of technology events and science fairs to gain visibility for their socially responsible activities. While both companies support The Lego League and First Robotics, Intel has taken the title sponsorships for U.S. based and national science fairs, which now are named for the company (Intel Science Talent Search, and Intel International Science and Engineering Fair). According to Wendy Hawkins, Executive Director of the Intel Foundation, “We support the Intel International Science and Engineering Fair because we know that math and science are imperative to future global growth. This competition encourages millions of students to engage their skills for innovation and develop promising solutions to global challenges.” (CSR Annual Report,

2012, p. 80). Both companies also utilize their own in-kind product donations to advance access to technology, which falls within their corporate STEM initiatives.

Both Intel and 3M also take a focus on teachers, by building programs through training and grants that help educators to better elevate STEM subjects within their classroom curriculum. 3M's TWIST program (Teachers Working in Science and Technology) allows STEM teachers to spend six weeks in the summer working on 3M research projects with employees. They also provide ingenuity grants for teachers and support the WorldlyWise website to improve access to educational science information. Intel created the IntelTeach program to help educators learn how to integrate STEM into the classroom in ways that are engaging and exciting to students (see Table 2 above).

While both companies have adopted many similar STEM strategies and programs, they also each have unique focus areas. 3M takes an internal focus by utilizing their employees to elevate STEM awareness. Through their Visiting Wizards and 3M Tech Volunteer initiatives, they encourage employees to be ambassadors for technology and engineering career fields by exhibiting science experiments in the classroom and mentoring students about STEM career paths. Intel on the other hand, takes a more external focus through partnerships and campaigns with other STEM related organizations. They launched the "Stay With It" Campaign in partnership with the American Society for Engineering Education in order to connect engineering students to mentors and one another to encourage them to continue to pursue it as a career path. Possibly the most notable distinction in Intel's STEM initiatives is its focus on empowering and inspiring girls specifically to pursue STEM education and career opportunities. In order to elevate access to technology and STEM education for women,



they partnered with the 10x10 campaign, a social action campaign which utilizes the documentary “Girl Rising” to increase awareness of the struggles of women in developing countries and the importance of providing them opportunities to learn.

As can be seen in Table 2 above, Intel’s STEM investments make up .7% of their overall CSR investments and totaled over \$106 million dollars in 2012, while 3M’s STEM investments make up 34% of their overall CSR investments, but totaled \$19.4 million, significantly less than Intel.

**Q3:** *What are the differences and similarities in the way they communicate their STEM efforts to the public?*

While doing good is expected for businesses to exhibit their social responsibility, without clearly communicating their CSR investments, they lose the opportunity to promote their cause and gain visibility for their company. Through analysis of 3M and Intel’s CSR websites, blogs, press releases and Facebook pages, it is evident that their chosen vehicles for communicating their STEM initiatives have both similarities and differences.

**Table 3: STEM Communication**

<b>Intel</b>	<b>3M</b>
<ul style="list-style-type: none"> <li>• Blogs regarding STEM within one year (Jan.-Dec. 2013): <b>6</b></li> <li>• Press releases regarding STEM within one year (Jan.-Dec. 2013): <b>8</b></li> <li>• Facebook posts in 2013: <b>2</b></li> <li>• Heavy CSR blogging (entire blog devoted to CSR)</li> <li>• Utilizes partnerships with other orgs to elevate awareness</li> <li>• Sponsorship heavy</li> </ul>	<ul style="list-style-type: none"> <li>• Blogs regarding STEM within one year (Jan 2013-Dec. 2013): <b>7</b></li> <li>• Press releases regarding STEM within one year (Jan.- Dec. 2013): <b>5</b></li> <li>• Facebook posts in 2013: <b>9</b></li> <li>• Sponsorship heavy</li> <li>• 3M wins 2013 Best Commitment to Education Award from US Chamber of Commerce for partnership with St. Paul schools</li> </ul>

**Sources:** company blogs, press releases, Facebook profiles and study interviews

When analyzing their corporate Facebook profiles between January 2013 and December 2013, it is apparent that 3M uses Facebook to communicate their STEM investments more heavily than Intel, with 3M exhibiting nine STEM related posts versus two at Intel (see Table 3 above). Intel's interviewee shed light on this difference by specifying, "We are more of a business to business company, so we don't directly advocate our STEM programs to our consumers. Our brand is out there, but we aren't a direct to consumer seller, so marketing to consumers wouldn't necessarily be beneficial to us. It's more about educating our employees about what we are doing because our employees are our ambassadors" (2014, Feb. 10) Personal Interview. 3M, on the other hand, backed up their Facebook strategy by suggesting that "given the opportunity, most consumers will buy from a reputable and socially progressive company that is doing something good. The more we tell our story of what we are doing, I think we get to bite off a piece of that apple" (2014, Feb. 25) Personal Interview.

As evident in Table 3 above, both companies exhibited use of their corporate blogs and press releases to share their STEM work (3M: 7 blogs and 5 press releases, Intel: 6 blogs and 8 press releases). In order to highlight their new Sparticl website resource for teens, 3M utilized their corporate blog where Kim Price, VP of 3M Gives shared, "Trends in many countries show that teens are losing interest in STEM, and few resources are available for middle school students during the critical time around age 13 when they are making choices about what subjects they do and do not like to study. This is a major long-term challenge, since STEM disciplines have the potential to solve the world's most pressing problems in energy, food supply, medicine, and infrastructure (Around 3M, 2013). Similarly, Intel used their blog to share shocking statistics about

women in STEM, which aligns with their strategic focus on elevating women in STEM. According to Wendy Boswell, “It’s a fact that can’t be denied: there are, quite simply, far fewer women in technology-related fields than there are men, STEM-focused fields have been typically underrepresented by the fairer sex for decades, and the gap looks to be growing” (Boswell, 2013).

Intel also adopted the tactic of using their sponsorships to gain large scale attention. According to Intel’s interviewee, the company sees the benefits of visibility from their sponsorship of the Intel Science Talent Search and the Intel International Science and Engineering Fair. “The 2012 ISEF winner created an early detection warning system for pancreatic cancer. He has been on every television show as a result of his participation” (2014, Feb. 10) Personal Interview. Intel also uses their partnerships with other organizations like the 10x10 campaign and the “Stay with It” campaign to gain attention for their STEM work.

Through analysis of their annual CSR (2012) reports, it is apparent that 3M highlights their programming and dollars invested, while Intel highlights their programming and the number of individuals impacted. For example, Intel shares that in 2012, 1.9 million people gained digital literacy through their programming, while 3M does not share comparable results of their investments.

**Q4:** *Are there any correlations between their STEM investments and business reputation or performance?*

In order to address any apparent correlation between 3M and Intel’s STEM investments and business reputation or performance, the researcher compared 2012 year-end financial reports and the 2012 CSR annual investment reports. The researcher also

questioned each interviewee for their perspective on the influence of their corporate STEM investments.

***Table 4: STEM Investment and Business Reputation***

<b>Intel</b>	<b>3M</b>
<ul style="list-style-type: none"> <li>• Indirectly correlates to business performance</li> <li>• Improves employee retention for millennials</li> <li>• Net revenue dropped in 2012 even though STEM investments grew</li> <li>• 62% of employees reported that volunteerism was a core component of job satisfaction</li> </ul>	<ul style="list-style-type: none"> <li>• Indirectly correlates to business performance</li> <li>• Improves employee retention for millenials</li> <li>• Net revenue grew in 2012 and STEM investments grew</li> </ul>

**Sources:** Annual CSR reports, annual year-end financials, study interviews

As can be seen in Table 4 above, the comparative analysis of the year-end net revenue and annual STEM investments were inconclusive. While Intel’s STEM investments increased in 2012, their net revenue decreased. On the other hand, 3M’s STEM investments also increased in 2012, and their net revenue saw an increase as well. While the financials were inconclusive, both interviewees agreed that they could not claim any direct correlation their STEM investments have on business performance, but shared in their sentiment that they have indirect influence through enhanced corporate reputation and employee retention. The Intel interviewee suggested that “our STEM investments increase our visibility with key stakeholders. That visibility is invaluable when we need to open a facility in a new country. They know we will bring the resources and invest in the community as a responsible corporate system” (2014, Feb. 10) Personal Interview. In regards to employee retention, 3M’s interviewee advocated that “younger employees are looking for not only a job but an opportunity to make a difference

internally and externally. If we provide that opportunity that makes them happy and more likely to stay with 3M” (2014, Feb. 25) Personal Interview.

## **Discussion and Conclusion**

While both Intel and 3M paved individual paths to STEM investment leadership through their combined fifty plus years of elevating and increasing digital literacy within the communities they serve, it is important to continue to strategize and quantify these CSR investments when you consider the significance of millions of dollars in STEM investments every year. The analysis of their CSR evolution and varying approaches and strategies to elevating STEM has the potential to further inform PR and CSR practitioners on the most effective and impactful methods of aligning their CSR efforts with their business model.

It is also evident that as long as STEM remains a high priority for the White House and Obama Administration, it will remain a valid and necessary gap to fill through corporate and philanthropic support. According to the official White House blog, “A world-class STEM workforce is essential to virtually every goal we have as a nation – whether it’s broadly shared economic prosperity, international competitiveness, a strong national defense, a clean energy future, and longer, healthier, lives for all Americans. If we want the future to be made in America, we need to redouble our efforts to strengthen and expand our STEM workforce” (Larson, 2012)

While there is a plethora of available research on corporate social responsibility in the context of consumer perceptions and behaviors, brand awareness, and corporate reputation, this case study fills a significant gap in the literature by examining a specific strategy and type of CSR investment with the goal of making larger suggestions on the

effectiveness of CSR and line of business integration. While the trend is apparent when examining corporate CSR annual reports, there is not yet enough research to quantify the CSR alignment strategy, and this data is desperately needed to further educate CSR and PR practitioners. This study takes that first step by examining STEM investments within 3M and Intel, two major U.S. and global technology players in an attempt to provide insight on the strategy and entice future researchers to build on and continue the investigation.

The major findings from this study indicate a handful of trends, themes, and methods which can be used as a guide for CSR practitioners strategizing to align their CSR with their core business expertise. First, while both Intel and 3M had distinct programming and strategies in STEM investments, both were diverse. Each company made STEM investments in five significant areas including: student programming, teacher training and support, in-kind donations, sponsorships and employee volunteerism or mentoring. These diverse efforts allow them to gain recognition and visibility from multiple avenues including other like-minded causes, school districts and through utilizing employees as program ambassadors and word of mouth marketers.

Second, while their reasons for implementing STEM programming were unique, they each had a strong reason which included the alignment with their business expertise and the ability to utilize their employees and their products to advance their STEM agenda. In addition, 3M identified their role as supplementing the lacking STEM curriculum within local public schools in order to elevate interest and excitement in building skills which could lead to a potential career at 3M.

Thirdly, the company's type of business model should inform the way it communicates and markets its STEM investments. Because Intel sells mostly business-to-business, it was not beneficial to promote its STEM work to consumers through their corporate Facebook profile. 3M however, is more consumer centric, and therefore, they find benefit in utilizing their Facebook profile and other consumer focused communication to elevate and build awareness of their STEM agenda within their customer base.

The fourth trend was the noticeable difference in 3M and Intel's geographic investment focus. Most of 3M's STEM investments are made in the United States, and most significantly in their headquarters area of Minnesota. On the other hand, Intel has a more global perspective to their STEM investments, which is a reflection of their global business model. Because of this global strategy, Intel has adopted a specific focus on elevating STEM literacy within women in developing countries, while 3M has maintained a non-gender specific approach. These results reveal the influence which a company's product line and geographic location can have on their CSR investments. In addition, it sheds light on two potential geographic investment strategies, local and global, each advantageous and aligned with the company's CSR goals.

Lastly, while the influence of Intel and 3M's STEM investments on bottom line business performance were inconclusive, one should not discount the indirect influence CSR can have on the company through increased community visibility and through employee retention. If STEM initiatives keep employees fulfilled, happy, and eager to stay with the company, then that affects the bottom line through the value of human capital.

From a theoretical perspective, the results of this research support the stakeholder theory. While Intel and 3M value their shareholders and business performance, their STEM investments exhibit their commitment to their employees and general society by utilizing their business expertise and resources to improve STEM education and literacy. For practical application, the results of this study can be used to further guide and inform CSR and Public Relations practitioners on the strategy behind CSR and line of business integration. The results of this study also have the potential to inform and alter the non-profit landscape. As technology companies continue to prioritize STEM in their community giving strategy, non-profit organizations and programs will have to meet their expectations with innovative STEM programming in order to be considered for corporate funding and grant dollars. This potentially could initiate the introduction of STEM programming and curriculum into established non-profit education programs in order to be a strong contender for funding.

While the results of this study make considerable contributions to the corporate social responsibility field and to the body of literature on the subject, there are limitations and weaknesses which must be addressed. The case study approach is subjective and is interpreted through the researcher's perspective of the study content. In addition, while the two corporate interviewees provide credibility and expertise to the research, their responses to the research questions are subjective in that they were asked to share their professional opinion. The results of this study are also limited in their ability to be generalized and applied to other research investigations because the study was limited to two company case studies and only two interviews, one from each business. While these elements are weaknesses to the data, the strengths of this study are its in-depth analysis of



two large technology companies, which could best be achieved through the case study approach. In addition, this research only analyzed one year's worth (2013) of web communication content relating to the company's STEM efforts. This topic would benefit from long range analysis of their CSR and STEM efforts to illustrate the trends in investments over time and make any correlations comparing business performance and CSR investments.

Future researchers could make further contributions to this subject by providing empirical, quantitative data on how consumer's attitudes and behaviors are influenced by CSR and line of business integration. Future researchers could also broaden the impact of this study by examining CSR and line of business integration within other industries. For example, one could look at food companies supporting hunger relief efforts, or the banking industry investing in financial literacy. This would extend the reach of the current study by suggesting larger implications for the effectiveness of aligning a business's corporate social responsibility activities with their line of work and expertise.

While there is work to be done to further research the effectiveness of CSR and line of business integration, it is clear that as long as business is booming, companies will be expected to further invest in the well-being of their society and community. While Intel and 3M approach and communicate their STEM investments differently, it is apparent that each take careful consideration of their business model, the resources at their disposal and their overall CSR goals when considering their investment strategy. These strategies are valuable to companies attempting to navigate the complicated web of community investment options with the goal of establishing a robust and beneficial CSR agenda. It's no longer enough to do good, companies must be good at doing good.

## **APPENDIX SECTION**

### **APPENDIX A**

#### **Interview Questionnaire:**

1. Do Company (X)'s STEM investments advance the company's mission and corporate social responsibility goals?
  - (a) If answered "yes": How?
  - (b) If answered "no": Why?
2. Why were STEM investments implemented at Company (X)?
3. Do you think Company (X)'s STEM investments influence its corporate reputation?
4. Is it important for a company to have a clear strategy for its CSR investments?
5. How have Company (X)'s CSR efforts evolved over time?
6. Are STEM investments important to Company (X)'s sustainability?
7. How effective have Company (X)'s STEM investments been in garnering positive press or notoriety for Company (X)?
8. Does Company (X) communicate its STEM initiatives with consumers and stakeholders through corporate communication and social media?
9. Do you think there is any correlation between Company (X)'s STEM investments and business performance?
10. Do you think there is any correlation between Company (X)'s STEM investments and employee retention?

## APPENDIX B

### Interview Highlights

#### Intel

**Q:** Do Company (X)'s STEM investments advance the company's mission and corporate social responsibility goals?

**A:** STEM investments are not a product for an ROI for the company. Our STEM investments are specific because we want a workforce that will support our company, innovation, and keep the US on the cutting edge of creating new and innovative technologies. The pipeline is there for students to eventually come and work at companies like ours, start their own company that support businesses like Intel, which overall is good for the CSR of Intel.

**Q:** Is it important for a company to have a clear strategy for its CSR investments?

**A:** We want to align our CSR investment to the company's bottom line. Most of our investors are also parents, community members, people that are interested in helping society with their social activities. It is important that we are clear about what our social engagement is so that when we go to these investor relations meeting they hear and understand that. We want to make a difference in our communities. We are aware that it's important that the corporate office understands the benefit of CSR, and how it adds and aligns to their bottom line.

**Q:** How effective have Company (X)'s STEM investments been in garnering positive press or notoriety for Company (X)?

**A:** Very beneficial. Highly visible science competitions. Top 40 students around the US. Last year's student who won was a homeless student in New York. She was on every talk show in the country as a result of being homeless and being able to compete with students from more affluent areas and more access to resources. In 2012 the Intel ISEF winner was a sophomore in high school. He created an early detection warning system for pancreatic cancer. \$3 for each test and more accurate than any other test. He has been on every television show as a results of participating. We do see the benefits form a visibility standpoint of our STEM engagements.

**Q:** Why were STEM investments implemented at Company (X)?

To create a pipeline of students that can continue to innovate in the US and in other countries. In the technology sector innovation is huge, so when we looked across the spectrum of the US education system, we realized that students, especially k-12 are not

really focusing on STEM as a career like they were in the 80s. We want to support the education system and give kids those skills. Critical thinking innovation are supported through a STEM pipeline.

**Q:** Do you think Company (X)'s STEM investments influence its corporate reputation?

**A:** Absolutely. Our STEM investments put us in the spotlight as a company who is very supportive. We spend 100 million dollars a year around the world in education. Investments in the industry around the world. If we are looking at policy makers or key leaders in the education arena, they are going to recognize that is something that we do and have done for 20 years. It enhances our CSR.

**Q:** Does Company (X) communicate its STEM initiatives with consumers and stakeholders through corporate communication and social media?

**A:** We can do better on social media. We have a community page on FB that had 120 followers last year. This year through aggressive social media campaign we now have 400,000 FB followers. We are more of a B2B company, so we don't directly advocate our STEM programs to our consumers. It's more about educating the community that we are in and educating our employees about what we are doing because our employees are our ambassadors. We don't have direct to consumers or commercials about what we are doing in STEM, we use our employees as ambassadors. Our brand is out there, but we aren't a direct to consumer seller, so marketing to consumers wouldn't necessarily be beneficial for us.

**Q:** Do you think there is any correlation between Company (X)'s STEM investments and business performance?

**A:** In this business, anytime we aren't adding to the bottom line, or selling a product it is really difficult to try to quantify what the value is in a dollar or in impact. What I can say, is that our CSR efforts increase our visibility with key stakeholders. That visibility is invaluable when we need to move into another country. They know that we will bring the resources and invest in the community as responsible corporate system. I can't say it directly affects the bottom line but I would say that it certainly indirectly effects it in a positive way.

**Q:** Do you think there is any correlation between Company (X)'s STEM investments and employee retention?

**A:** We hire 100 interns every year. We retain about 65 of those. Employees that work here have students are in the school systems where Intel supports after school programs, summer camps, robotics, science fairs, and scholarships. Employees take an interest in their students from a personal perspective but also help proliferate Intel's views on

education and STEM, because they are out there as an ambassador of the company doing things with the schools to help bring in the next generation of innovators.

### **3M**

**Q:** Do Company (X)'s STEM investments advance the company's mission and corporate social responsibility goals?

**A:** I do. We are getting better about measuring. In the past we have been quiet givers. Not always knowing what was accomplished.

**Q:** Why were STEM investments implemented at Company (X)?

**A:** For our future. Education has always been about half of 3M philanthropy. About 15 years ago we started looking more at math and science in k-12 arena, thinking that it was important to our future and as instruction in public schools has become less creative. We are trying to supplement the core curriculum that the teachers use with innovative, fun learning tools so that kids can really connect to STEM subjects.

**Q:** Do you think Company (X)'s STEM investments influence its corporate reputation?

**A:** I have the benefit of being close to our grantees. I can get close to programs and can see that we are doing good.

**Q:** Are STEM investments important to Company (X)'s sustainability?

They do help prepare a future workforce. We are hopefully helping feed talent in the pipeline that will come out the other end as engineers and scientists that can help us make the next post it note. We are also helping sustainability in our environmental work. We are making the planet healthier.

**Q:** How effective have Company (X)'s STEM investments been in garnering positive press or notoriety for Company (X)?

**A:** We gain a lot of visibility from some programs, like our partnerships with TAME to build a science encouragement 18 wheeler that goes around the state. Lots of press and other organization got to come see what we are doing. Press is determined on dollars. The bigger the gift the more press we will get.

**Q:** Does Company (X) communicate its STEM initiatives with consumers and stakeholders through corporate communication and social media?

**A:** We are ahead of the curve compared to counterparts. We push out STEM through social media to our consumers.

**Q:** Do you think there is any correlation between Company (X)'s STEM investments and business performance?

**A:** Indirect. Not yet measurable. It is proven by survey and study that given the opportunity most consumers will buy from a reputable and socially progressive that is doing something good. The more we tell our story of what we are doing, I think we get to bite off a piece of that apple. People are buying based on social responsibility and we are socially responsible. So my guess is that we are benefitting.

**Q:** Do you think there is any correlation between Company (X)'s STEM investments and employee retention?

**A:** Yes. Younger employees are looking for not only a job but an opportunity to make a difference internally and externally. We have a lot of young employees that want to volunteer. That makes them happy and more likely to stay if they are enjoying their work and feel valued at their work.

## APPENDIX C

### Intel Blog, Press Release, and Facebook Post

The top screenshot shows a web browser window displaying a blog post titled "Closing the Technology Gender Gap with 'She Will Connect'" on the Intel Software blog. The post is submitted by Wendy Boswell on Friday, 11/01/2013 at 13:20. The content discusses the gender gap in STEM fields and the "She Will Connect" initiative. The bottom screenshot shows the Intel Newsroom website. The main article is titled "Chip Shot: Intel International Science and Engineering Fair Kicks Off", posted by IntelPR on May 14, 2013 at 10:19:30 AM. The article reports on the opening of the Intel International Science and Engineering Fair (ISEF) 2013, where 1,600 high school students from 70 countries are competing. The right sidebar includes a "Filter News Archive" section with dropdowns for "By author:", "By date:", and "By tag:", and a "Recent Posts" section listing related articles.

Intel Strives to Educate and Empower Girls Arou...

Look for us on: [f](#) [in](#) [digs](#) [+](#) English >

Intel Newsroom

Welcome, Guest [Login](#) [Register](#)

Groups [v](#) Communications

Filter News Archive

By author: [v](#)

By date: [v](#)

By tag: 2nd\_generation\_core appup appup\_center atom computing consumer\_core core\_i5 core\_i7 education intel processors research software technology

Recent Posts

Chip Shot: Intel Funds Technology/Arts Program at Carnegie Mellon University

Chip Shot: Big Data Transforming the Big Dance

Newsroom Chip Shot: Big Data Transforming the Big Dance

Intel

Product/Service · 24,334,464 Likes

With education comes freedom. Intel is a proud sponsor of the new film, Girl Rising <http://intel.ly/ZwJFkg>

16,222 537

EDUCATE A GIRL  
AND SHE  
WILL CHANGE  
THE WORLD

Recent

- 2010s
- 2014
- 2013
- 2012
- 2011
- 2010
- 2000s
- 1990s
- 1980s
- 1970s
- 1969
- Founded

5:11 PM  
3/20/2014



## APPENDIX D

### 3M Blog, Press Release and Facebook Post



The screenshot shows a web browser displaying the 3M Spark News blog. The URL bar shows 'http://spark.3m.com/blog/?p=4363'. The page features the 3M logo and 'Spark 3M News' header. A navigation bar includes links for LEADERSHIP, AROUND 3M, TECHNOLOGY, PRODUCTS & SOLUTIONS, 3M PERFORMANCE, and AWARDS & RECOGNITION. The main content area is titled 'Fostering an interest in science through robotics' with a date of July 02, 2013. The text discusses the challenges of getting students excited about STEM and mentions the 3M Foundation's sponsorship of high school robotics teams. A photo shows a group of students and adults holding a sign that says 'FIGHTING CALCULATORS'. A sidebar on the right includes a search bar, social media links (Facebook, LinkedIn, YouTube, Twitter, RSS), tags for 'Community Involvement' and 'United States', and a 'More About 3M' section with links to the 3M Newsroom & Press Releases and more stories about 3M innovation.

The screenshot shows a web browser displaying the 3M Newsroom press release. The URL bar shows 'http://news.3m.com/press-release/company/scien...'. The page features the 3M logo and navigation links for Products & Services, Brands, Technologies, Our Company, and Partners & Suppliers. The main content area is titled 'Science-On-Wheels Encourages STEM Education for Texas Students' with a category of 'Company'. The text describes the launch of the Trailblazer II, a 40-foot trailer aimed at inspiring science and engineering careers for Texas youth. A quote from 3M states: 'At 3M, we believe encouraging youth to consider careers involving STEM is vitally important to the Texas economy and the development of our state's future leaders'. The page also includes a 'Public Company Information' section with NYSE: MMM and a 'Newsroom' sidebar with links to Top Stories, Press Releases, Press Kits, Multimedia, 3M in the News, and Contact Media Relations.

Like · Comment · Share 78

**3M**  
October 9, 2013

We are proud to announce the winner of the 2013 **Discovery Education 3M Young Scientist Challenge** is 11-year-old Peyton Robertson from Ft. Lauderdale, Florida. Peyton won the title of "America's Top Young Scientist" for 2013, creating an innovative sandbag design that aims to help better protect flood zones against salt-water damage from future storms. We congratulate him and all of the finalists on their impressive achievement!

about 5 months ago

**Create Page**

Recent

2014

**2013**

2012

2011

Founded

Sponsored

**Make mom happy**  
healthcare.gov

Mom would be happier if you got health insurance.

Make mom happy—click here to learn more.

5:12 PM  
3/20/2014

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