Human resources: a key aspect in company innovation

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HUMAN RESOURCES:
A KEY ASPECT IN COMPANY INNOVATION

by

KRISTIN HALL

A thesis submitted in partial fulfillment of the requirements
For the Honors in the Major Program in Management
in the College of Business Administration
and in The Burnett Honors College
at the University of Central Florida
Orlando, Florida

Fall Term 2011

Thesis Chair: Erwin Danneels, Ph.D.
ABSTRACT

Innovation is a key factor for companies. It is also essential on an individual scale for employees. To ensure they are utilizing employees to the utmost efficiency, companies must implement practices to ensure the attraction and retention of top employees. Human resource practices can help to define and explain essential techniques to help employees gain satisfaction from their work, creating intrinsic motivation, and allowing them to ultimately perform more efficiently and perhaps even creatively for the company, helping to generate significant profits.

The intent of this thesis is to analyze human resource practices on an empirical study of eight companies (provided from a previous study by Erwin Danneels, Ph.D.) and to determine whether or not human resource practices can help predict a firm’s ability to enter new markets and implement new technologies, ultimately leading to innovation. Companies are grouped depending on their residual values generated from Danneels’ study and analysis. His research observes the ability to predict new market entrance and technology implementation through five company characteristics: constructive conflict, willingness to cannibalize, slack, learning from failure, and various types of environmental scanning. This thesis seeks to find positive relationships between human resource practices and the companies where the model proves to be a good fit.

I define human resource practices by the following six categories, breaking them up into incentives and skill development: extra benefits, fitness incentives, social responsibility, and continuous learning, global opportunities, and rewards/opportunities for advancement. This analysis hopes to contribute to further research by generating an association between human resource practices and company innovation.
DEDICATION

To my family, friends, and encouragers,

Who continued to shine a light at the end of my tunnel.

And especially to my parents:

Thank you for all of your unwavering love and support,

Not only with this project,

But in every aspect of my life.
ACKNOWLEDGEMENTS

A special thanks to my Thesis Chair Advisor, Mr. Erwin Danneels, Ph.D.,

For guiding my path throughout this project.

And to my thesis committee,

For constructive feedback and support.

And to Mrs. Lauryn Migenes,

For being a wonderful mentor throughout my college years.
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CHAPTER ONE

Introduction

Innovation is key for long term growth and survival of a company (Autant-Bernard et al., 2007). Innovation can be defined as making resources more efficient by making employees more efficient and therefore generating enhanced products, services, and ideas (Kaderabkova, 2005). Employees are directly responsible for the generation of new ideas within the company. These new ideas can potentially lead to innovation through a combination of employee behaviors, actions, and activities (Jorgensen et al., 2011). To develop employee behaviors, actions, and activities, recruiting and employee development are essential in retaining and encouraging innovative employees. Therefore, companies must pay close attention to employees through human resource practices in order to achieve long term success through employee retention (Hitt et al., 2006). In order for a company to be innovative, the development and implementation of extensive human resource practices is vital.

The purpose of this study is to examine the impact of human resource practices on a company’s innovation in regards to recruitment and retaining employees. This study uses exploratory research to find specific practices that appear to improve company innovation through detailed studies of eight companies.
CHAPTER TWO

Literature Review

For long term sustainable growth, a combination of human resource practices, high production intensity, and new market entrance can improve company innovation (Kaderabkova, 2005). Companies might reach their full innovation potential if they widen their opportunities in new markets (Harper & Porter, 2011). Specifically looking at human resource practices, recruitment and retention of employees through incentives and employee development can improve company innovation. The development of employee skill sets also helps a company improve innovation indirectly. Human resource practices help to provide employees with a sense of commitment to the organization, among other benefits as will be discussed later. Although human resource practices may not have a direct relationship with company innovation, research shows that they do have a positive impact on the organization when employees feel committed (Camelo-Ordaz et al., 2011).

Although significantly developed incentives to attract and retain employees can be costly for a firm, they can prove to be extremely beneficial in the long run. Companies spend more money hiring and training a new employee than they would retaining the current one (Zeithaml et al., 2006). Employee turnover can also decrease customer retention and team morale (Zeithaml et al., 2006; Sujansky, 2007). Some committed customers who have developed a social bond with the employee have a tendency to follow them to their new organization resulting in a lost customer and employee, and revenue.

When implemented correctly, reward systems, among other practices, can potentially improve innovative “performance, productivity, and profitability” in a company (Foss et al.,
There are many different incentives companies choose to offer. Rewarding employees through social events, monetary rewards, and health benefits, among others, result in potential employee stimulations and motivation without incurring high costs (Coates et al., 1991).

Incentives promoting healthy lifestyles and corporate social responsibility can also be beneficial in attracting and developing employees. Fitness incentives can help increase employee morale and stimulate a positive work environment. Programs to educate employees on healthy lifestyles can create awareness and ultimately decrease healthcare expenses for the company (Butler, 2010). In addition, employees are currently looking for employers who give back to the community more so than in previous years (Sujansky, 2007). Corporate social responsibility helps to create corporate culture and can contribute to an employees’ sense of commitment to the organization. Additionally, employees who effectively take part in social responsibility have higher ethical standards which ultimately impact an organizations’ reputation (Sujansky, 2007). Incentives can help increase employees’ commitment to an organization and enable them to be more creative, motivated, and productive (Sujansky, 2007).

Improving employee skill sets, also referred to as continuous learning, is also essential for firm innovation. In many cases, employees with little prior work experience have limited skills applicable to the company (Kaleba & Griffin, 2007). Internal training can enable employees to gain knowledge, specific to the company. This lowers company turnover and improves employee capability and quality (Cho, 2005; Uyssal, 2009). Providing challenging work, opportunities for advancement, continuous learning, enabling a creative work environment, and rewarding employees are several methods of motivating and retaining workers (Carleton, 2011). Proper training can help employees face the ambiguity that aligns itself with
global companies (Carleton, 2011). Learning, training, and education in the workplace are essential in every company due to globalization and technology enhancements (Carleton, 2011). The global economy has also increased competition within companies, making employee success (through continuous learning) imperative to firm innovation (Coates et al., 1991). Individual knowledge and skills have become increasingly important in reaching company goals and obtaining innovation. Therefore, it is necessary to understand and ensure equally-benefiting human resource practices due to employee diversity (Bondarouk, et al., 2009). As companies become more global, the need for cultural understanding becomes more pertinent in dealing with both diverse employees and customers. Companies with diverse employees tend to create a more stimulating environment, better suitable for innovation (Sujansky, 2007). Multinational companies must decide whether to incorporate human resource practices adapting to the local country or those of the home country (Uyssal, 2009). Continuous learning can help employees to further develop employee skills.

These human resource practices including incentives and skill development can improve company human capital by providing employees with training in order to develop their skill set. They can also contribute to company success by rewarding employees with appropriate incentives, ultimately benefitting the organization (Uyssal, 2009).

**Background**

I am working in conjunction with Erwin Danneels, Ph.D. He researches five characteristics of companies to explain two subtypes of innovation—the competences to enter new markets therefore generating new customers, and assimilate new technologies in order to adapt to the changing environment (Danneels, 2011). These are defined by Danneels as
categories of innovation, also called second-order competences—essential for business growth and survival (2011). Danneels deems the ability of a firm to create new competences vital in this changing business environment (2011).

His initial research, sponsored by the National Science Foundation, resulted in five “key organizational [company] characteristics that drive second-order competences: constructive conflict, willingness to cannibalize, slack, learning from failure, and various types of environmental scanning” (Danneels, 2011). A statistical study was performed by Danneels (2011), assessing the extent these characteristics allow him to explain a firm’s ability to generate new technologies and enter new markets, subsequently affecting the firm’s new products, services, and finances.

Danneels’ first survey project consisted of “two wave panel data using newly developed measures of marketing and R&D second-order competences… [in which] 108 firms participated in both waves” (2011). He continues, “The research proposed here will contribute knowledge as to what kinds of organizations are better able to build the resources necessary to serve new kinds of customers and use new technologies, and hence adapt in a changing environment” (2011). This survey generated positive predictions through regression analysis regarding companies that implement marketing and R&D strategies. However, for companies where the statistical regression generated high residual values, there is unexplained variance within the analysis where Danneels’ “current theory does not provide accurate prediction” (2011). In other words, these five company characteristics are not sufficient to explain the two second-order competences. As Danneels describes in his proposal, anomalies can be insightful in extending
theories and bringing research closer to answering the question: what competences relate to innovation? (2011; Popper, 1959; and Kuhn, 1962).

**Significance**

My research proposes the theory that human resource practices can be an additional company characteristic contributing to the prediction of the two second-order competences (as defined by Danneels), ultimately predicting firm innovation. As a wide diversity of human resource practices are incorporated by companies, I am specifically analyzing incentives and skill development. However, I am only searching for human resources practices not typically used by most companies. For purposes of this research, I define these benefits as health insurance and monetary compensation provided by most companies. I hope this research will prove beneficial in extending Danneels’ company characteristics to help predict innovation through new market entrance and new technology implementation.
CHAPTER THREE

Companies

Professor Danneels’ research generated two residual values for each company: one for new market second-order competence and another for R&D second-order competence for all 108 companies surveyed. Looking at Professor Danneels’ research and the residuals, I began searching for two surveyed companies with either high or low residual absolute values (received from Danneels) in both categories for further examination. Initially, in order to study the human resource practices from each company, I researched the company websites as well as scholarly databases (Academic Search Premier, LexisNexis), looking for companies with the most human resource information available. The following companies are used for purposes of this research.

<table>
<thead>
<tr>
<th>Company</th>
<th>Ticker</th>
<th>Marketing Residual</th>
<th>R&amp;D Residual</th>
</tr>
</thead>
<tbody>
<tr>
<td>Columbia Sportwear Co</td>
<td>COLM</td>
<td>0.84119</td>
<td>1.31168</td>
</tr>
<tr>
<td>CR Bard Inc</td>
<td>BCR</td>
<td>0.20277</td>
<td>0.42514</td>
</tr>
<tr>
<td>Gen-Probe Inc</td>
<td>GPRO</td>
<td>-0.45921</td>
<td>-1.63936</td>
</tr>
<tr>
<td>Green Mountain Coffee Roasters</td>
<td>GMCR</td>
<td>-0.53728</td>
<td>1.88114</td>
</tr>
<tr>
<td>Hershey Co</td>
<td>HSY</td>
<td>0.25000</td>
<td>0.07873</td>
</tr>
<tr>
<td>Ultratech Inc</td>
<td>UTEK</td>
<td>-1.07122</td>
<td>-0.27042</td>
</tr>
<tr>
<td>Western Digital</td>
<td>WDC</td>
<td>1.91086</td>
<td>1.84962</td>
</tr>
<tr>
<td>Wrigley (WM) Jr Co</td>
<td>WWY</td>
<td>0.97975</td>
<td>-0.42197</td>
</tr>
</tbody>
</table>

Figure 1: Companies and Corresponding Residual Values

Method

Absolute values are used to capture the extent of the high/low residual values. Any absolute value over 0.5 is considered high and values between 0.00-0.5 are considered low. Therefore, the
companies (C.R. Bard and Hershey Co.) with both low marketing and R&D residual values are a good fit for Danneels’ model to predict these two second-order competences using only the five company characteristics as defined above. However, Western Digital and Columbia Sportswear’s high residual values suggest that Danneels’ five characteristics are insufficient to predict the two second-order competences. The following chart was generated to show company residual values relative to the others:

<table>
<thead>
<tr>
<th>High</th>
<th>Low</th>
<th>High</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>R&amp;D RESIDUALS</strong></td>
<td>Green Mountain Coffee Roasters</td>
<td>Western Digital</td>
</tr>
<tr>
<td></td>
<td>Gen-Probe Corp.</td>
<td>Columbia Sportswear</td>
</tr>
<tr>
<td></td>
<td>C.R. Bard</td>
<td>Wrigley Jr. Co.</td>
</tr>
<tr>
<td></td>
<td>Hershey Co.</td>
<td>Ultratech</td>
</tr>
</tbody>
</table>

**Figure 2: Company Residual Breakdown**

Using Danneels’ model as a good fit to predict the ability to implement new technologies and enter new markets, C.R. Bard and Hershey provide a base to compare the other companies to and, studying human resource practices, see what company practices might be missing from companies where the five characteristics Danneels defines are not sufficient. This would allow us to better predict these core competences with an additional company characteristic: significant human resource practices.
Research

Following the method Danneels describes in his research proposal, my research includes Thomas Kuhn’s proposed scientific study of identifying inconsistencies through a detailed analysis of eight firms (Danneels, 2011; Kuhn, 1962). My research entails reviews of public information: journals, news articles, press releases, etc. of the eight companies. Through my research, I have searched for human resource practices as an additional company characteristic (as defined by Professor Danneels) that would provide a better fit to explain firm innovativeness generated by the model’s analysis—predicting companies’ ability to enter new markets and the ability to assimilate new technologies. This exploratory research has been conducted through use of the University of Central Florida libraries and databases including, but not limited to, ABI Inform/Complete, Academic Search Premier, Business Source Premier, LexisNexis Academic, and companies’ websites. To be systematically accurate, all eight companies were searched (within the last five years) through Academic Search Premier, Business Source Premier, and LexisNexis Academic for human resource-related information pertaining to my thesis. The articles I found for the following eight companies are as follows: Hershey: 9, C.R. Bard: 1, Green Mountain Coffee Roasters: 5, Gen Probe: 5, Wrigley: 3, Ultratech: 3, Western Digital: 3, and Columbia Sportswear: 3. As stated, other articles were found; however, only articles regarding human resource practices pertaining to my research were counted. Company websites were also very helpful in generating a large portion my data.

Application

Because the area of human resources is very broad, I have chosen to limit my research to two types of practices as they relate to company innovation: recruitment incentives and skill
development. I will study the following factors through intensive research in order to make theory developed assumptions about each category as it relates to company innovation. Each of the eight firms will be included in this detailed analysis.

The figure below represents the process believed to contribute to employee innovation. Employee recruitment and improvement through incentives and skill development, respectively, are each analyzed by three corresponding practices. These practices explain the basis of my research on the eight companies, as described above.

*Figure 3: Human Resource Practices Breakdown*
Limitations

Although I believe the psychology of employees also plays an important role in assessing their performance in the workplace I do not feel qualified to incorporate such research into my writing. Employee satisfaction is mentioned, as it is believed to significantly influence employees’ behavior and therefore actions. However, I limit my writing to company incentives and skill development. The environment and structure of companies are also believed to play an important part in obtaining innovation. However, I am strictly focusing on innovation as explained by human resource practices that can be completely controlled by the company.
CHAPTER FOUR

The following sections are an in depth analysis of human resources practices employed by the eight companies, grouped specifically by their corresponding residuals and whether or not Danneels’ model of the five characteristics is a good fit to predict new market entrance and generate new technologies.

Low Marketing and Low R&D Residuals

Hershey and C.R. Bard are used as the base companies for this study as their low residual values in both marketing and R&D second-order competences suggest that the five characteristics are enough to predict both entrance to new markets and R&D implementation. Both of these companies have extensive human resource incentives and skill development, possibly aligning with the five characteristics as human resource practices provide additional influence on a firm’s ability to be innovative.

Hershey

Hershey employs unique working concepts to stimulate employee innovation and creativity. Out of the six dimensions of human resource incentives and skill development, Hershey implements all six including extra benefits, fitness incentives, social responsibility for employees, continuous learning, global opportunities and recognition/advancement opportunities.

Hershey fosters creative thinking and innovation. To stimulate this concept, employees of Hershey Canada were involved in designing the walls “Hershey’s chocolate-brown and bright yellow O’Henry!” (Jermyn, 2010). Employee initiative and self-efficacy can foster creative and
innovative thinking. The Hershey Canada location also promotes business casual as well as the flexibility to wear jeans whenever employees please if they have donated $100 per year to one of two major charities: United Way or towards breast cancer (Jermyn, 2010). Most employees can also choose from a flexible working schedule and over half are provided with laptops, printers, faxes, and internet access for their convenience (Jermyn, 2010). The company also provides adoption assistance for families as an additional incentive for employees.

They partake in a diverse array of socially responsible efforts. Hershey has been recognized by the Mexican Center for Philanthropy as the most socially responsible company due to their work ethic, community involvement, and environmentally-friendly efforts in Mexico (Hershey, 2011). In 2011, they pledged $250,000 to a food bank project in Pennsylvania to raise awareness, supporting domestic hunger, among many other efforts (Hershey, 2011). To encourage employees to maintain and active and healthy lifestyle, they promote “Together Counts,” a program for the whole family to participate together. Hershey also offers gym membership reimbursement to employees along with corporate fitness centers. Hershey also provides Nintendo Wii in the break room, and employees are eligible to take up to an hour and a half if they are utilizing the gym during their lunch hour (Jermyn, 2010).

Regarding skill development, Hershey has implemented continuous learning practices including the Hershey University, an online learning facilitation where employees can enroll in programs. They also have a center for learning and leadership development as well as coaching opportunities. They also offer lunch and learn sessions to further employee development and education. The company also offers diversity groups and affinity councils (a total of seven different ones) to promote and educate employees. Among them is the Sales Diversity Council,
who fosters “advancements in diversity to better promote and educate employees, enhancing company performance through respecting differences” (The Hershey Company, 2011). Promoting diversity enables employees to be better prepared for challenges they may encounter when working in other global locations as well as working among diverse employees in North America. Hershey strives to gather broad perspectives through diverse employees. Other councils include one for women and another for young professionals (Jermyn, 2010). Finally, the Hershey Company rewards success and enables company advancement. Employees performing well in long-term field sales are rewarded with the Milton Hershey Legacy Award (Jermyn, 2010). Employees exemplifying the values of the company are awarded with the Sweet Achiever Award—every employee is eligible for nomination and winners are chosen by the company’s leadership team.

During the global recession in 2007, many Hershey employees were laid off from smaller plants. Among them, employees working in Tri Valley Grower’s S&W cannery who received resume-writing workshops, online job searching help, as well as a financial counseling in addition to a generous severance package to ease the process of searching for a new job (Salerno, 2007). In many cases, older employees were eligible to take early retirement with the help of Hershey. The company states the layoffs were due to expansion in countries including Mexico and India (Salerno, 2007; Ryan, 2007). They also have locations in Brazil, China, Korea, Japan, and Canada, as previously mentioned.

The Hershey Company continues to invest a significant amount of time, money, and resources in their greatest asset—their employees—in order to attract, retain, and develop them.
**C.R. Bard**

C.R. Bard offers many additional benefits to employees including family-based incentives for employees of the company. This includes the Willits Scholarship Foundation to children of employees. They have provided scholarships to organizations for over $21.3 million in areas of health/community development, education, arts, and culture (C.R. Bard, 2011). They provide tuition reimbursement programs for employees along with an educational assistance program along with programs to ensure the safety of employees.

The company also has many global locations for potential employee relocations including, the United States, France, Britain, Belgium, Germany, and Mexico (“Bard staff expansion,” 2003). Their recent expansion with the joint venture, Bard, is due to the increased demand for products internationally. Bard is the “centre of excellence in Asia for C.R. Bard” (“Bard staff expansion,” 2003). They also provide worldwide travel assistance for employees and consider themselves to have “geographically diverse” opportunities (C.R. Bard, 2011). On their website, they state the importance of promoting creativity by enabling employees to develop new skills and advance their career through global opportunities. Regarding recognition, C.R. Bard places a special focus by holding the Charles Russel Bard award for outstanding employees.

On their website, C.R. Bard has a specific section specifically designated to community outreach. They state that recycling has become a large part of the company culture (C.R. Bard, 2011). Part of their policy includes conducting business in an environmentally-friendly way. Their actions implemented by the company seek to eliminate (or at least reduce) the amount of waste electronics, paper, cardboard, metal, plastic, batteries, and glass from landfills on a monthly basis (C.R. Bard, 2011). Also, in progress is an energy savings project, hoping to reduce
the facilities’ imprint on the environment (specifically in regards to energy and carbon). They are pursuing this task through:

- The installation of passive harmonic filters
- Reactive power compensating units
- Intelligent air conditioning controllers
- New lighting equipment and technology (C.R. Bard, 2011).

These practices are expected to help C.R. Bard save 5,288,592 kWh at the facility in Georgia, along with 8,250,203 lbs. of carbon dioxide, 3069 barrels of oil, 2,328 tons of coal, and 62,292 lbs. of sulfur dioxide—a significant reduction in their “footprint” (C.R. Bard, 2011).

**High R&D and Low Marketing Residuals**

Both Green Mountain Coffee Roasters and Gen-Probe’s low marketing residuals suggest that Danneels’ model is a good fit to predict their ability to enter to new markets. However, their high R&D residual suggest that there is a characteristic missing in Danneels’ model in order to explain their ability to implement new technologies. Both companies offer extensive incentives and skill development in almost every category of human resource practices as defined earlier.

**Green Mountain Coffee Roasters**

Green Mountain Coffee Roasters (GMCR) maintains significant human resource practices to motivate, attract, and retain employees (as defined in this research)—among them, diverse benefits. Green Mountain offers free coffee to their employees. As cited in an article on Business Wire, the company took part in the 13th Annual Talent Management Summit focusing on:
Attracting the ‘right’ kind of people during the hiring process
Transitioning your company’s high potentials into high performers
Progressive continuous learning and the development ideas for specialists’ career paths
Accelerating supply, preparation and appropriate placement of fast track candidates
Engaging employees in their own career development the day they start with the company
Customizing training through a career development lens
Tools to measure the progress and impact of your talent initiatives (‘GMCR to Develop Strategic Change,’ 2010).

Regarding fitness incentives, Green Mountain offers diverse incentives from yoga class to meditation rooms, to $500 fitness reimbursements. Green Mountain participates in social responsibility through employee incentives in volunteering, donations, and grants. Keurig Incorporated, a subsidiary of Green Mountain Coffee Roasters, is dedicated to benefiting not only employees’ lives but also the lives of those in the community (GMCR, 2011). The company takes several steps towards social responsibility including:

- **Offsetting 100% greenhouse gas emissions**
- **Investing in sustainably grown coffee**
- **Donating at least five percent of pre-tax profits to social and environmental community projects** (GMCR, 2011).

As people are becoming more sensitive toward environmentally friendly products and processes, they may also be inclined to work for companies partaking in social responsibility. GMCR partners with environmentally-friendly farmers who grow coffee through cooperatives (George & Jones, 2005). These farmers do not use pesticides or herbicides and they also control
soil erosion (George & Jones, 2005). Green Mountain also participates in “CAFÉ Time” which stands for “Community Action for Employees” in which the company pays for employees to volunteer up to 52 hours within the community (“Gov. Commends GMCR,” 2011).

Regarding employee skill development and continuous learning, Green Mountain provides free Spanish language courses and encourages employee language learning. They also take employees on trips to visit the coffee-growing locations in South America. However, only locations in the United States are available for jobs. The company offers free career readiness training to those who have been laid off from the company (“Partnership Provides Career Training,” 2010). On GMCR’s Knoxville site, the company has also developed the Green Mountain Career Readiness program—educating local students in the Knoxville area. This helps prepare the students for a career with GMCR and allows their transition from student to employee to be more effective (“Partnership Provides Career Training,” 2010). The Career Readiness program, as explained in the article, provides training in three areas:

- **Professional skills** (listening, team building, interviewing, and resume writing)
- **Computer skills** (e-mail creation, communications, word processing, spreadsheets, and internet navigation)
- **Other skills** (reading for information, locating information, and applied math (“Partnership Provides Career Training,” 2010).

One participant even discusses the extent of conflict resolution, team building, and listening skills that were extremely beneficial to his transition into a career (“Partnership Provides Career Training,” 2010). Even if these students are not necessarily hired directly after by GMCR, they have identified and trained to have skill sets that will prove beneficial in any career.
Gen-Probe

Gen-Probe’s goal is to enable a supportive, stimulating, and innovative environment through different practices including modern technology, working in a new building, and focusing on individualism as well as teamwork (“Gen Probe,” 2011). Gen-Probe is conscious of the effects of employee turnover on the company and therefore imposes innovative tools to facilitate efficiency in employee tasks. Among other benefits, Gen-Probe offers flexible working hours for employees. The company offers extensive counseling services to employees and their family twenty-four hours a day, seven days a week. This includes professional services dealing with personal problems, work conflicts, alcoholism/drug abuse, etc. (“Gen Probe,” 2011).

Regarding fitness incentives, Gen-Probe has a gym on-site for employees’ convenience and provides health programs for employees (“Gen Probe,” 2011). These include a points system for fitness and nutritional activities. Milestones are set for employees and rewards are given as incentives to reach their goals. They also offer free yoga and Pilates in their company gym along with expert speakers on the subjects of nutrition, heart health, diabetes, etc. A final additional benefit (not yet discovered among the other seven firms) is the physical location of the company—next to beaches with great weather. They are also positioned near research facilities to stimulate employee creativity and enable collaboration with other companies. The company also engages in a significant amount of social responsibility including financial proceeds to benefit education, particularly in science and math, as well as health and economic growth (“Kondor covers Gen-Probe’s bases,” 2007). They also contribute to raising awareness of STDs in local communities—especially for college students.
Gen-Probe also provides college-prep for students, particularly to those who live in the low-income neighborhoods and to first-generation college students, as well as summer programs to help students and teachers explore the industry of life-sciences (“Kondor covers Gen-Probe’s bases,” 2007). This enables students to gain experience and develop a solid foundation they can build upon later in their career. For employees, they offer over 100 different courses to develop skills as mentioned on their website. They also have job locations available in the United States, Canada, Germany, Belgium, UK, and Italy. Gen-Probe lists many more benefits in comparison to skill development opportunities, particularly regarding employees.

**High Marketing and Low R&D Residuals**

Both Wrigley and Ultratech’s residuals imply that the model is a good fit for predicting their ability to implement new technologies but is still lacking an additional characteristic to allow Danneels’ model to predict their ability to enter to new markets. Wrigley implements human resource practices within almost every category analyzed for both incentives and skill development. Ultratech, although they provide some additional benefits and incentives, does not utilize extensive human resource practices as it does not seem to be a major focus of the company.

**Wrigley Jr. Co.**

Wrigley Jr. Co. stimulates a healthy-working environment for employees through many programs. Due to this process, they were awarded the 2009 Best Employers for Healthy Lifestyles’ Award (“Wrigley Healthy Lifestyles”, 2009). Wrigley explains that by encouraging healthy lifestyles, employees are able to work in a productive and stimulating environment. On-
site fitness centers are located for employee’s convenience. Also available are healthy eating options as well as other incentives to join fitness clubs. In addition to exercise facilities, Wrigley Jr. Co promotes healthy lifestyles through programs to help employees quit smoking as well as behavior changing programs and personal coaching (“Wrigley Healthy Lifestyles,” 2009). Wrigley also believes that not only are they increasing employee productivity by promoting healthy lifestyles, but they are also increasing employee satisfaction and overall quality of life (“Wrigley Healthy Lifestyles,” 2009). To take part in social responsibility, the company encourages the habitants of Chicago, its headquarters, to participate in the “Wrigley Start Early Run and Pledge Walk”. This community activity also raises money for Voices for Illinois Children and Prevent Child Abuse America (“Wrigley Healthy Lifestyles,” 2009). They also partner with many nongovernmental organizations and business to help increase awareness of environmentally-friendly acts.

Wrigley often provides experts to hold seminars in which they discuss leadership capabilities—furthering the development of employee skill sets. They also promote the internal advancement directly on their website. The company has also implemented a specific leadership program, Wrigley Leadership Academy, to help managers develop leadership skills. They also have a global program entitled “Coaching the Wrigley Way” which provides support for discussions on how managers can effectively develop their employees (Wrigley Jr. Co., 2011). Finally, Wrigley has a performance management program called GOLD (goals, outcomes, leadership, and development). The company delegates many resources to help employees further themselves in their career with Wrigley Jr. Co.
Every couple years the company obtains feedback from its employees. During the last survey, the company found that employees desired more flexible benefits. Unique benefits of Wrigley Jr. Co include:

\begin{quote}
\textit{Purchasing five days of extra holiday, a choice between childcare vouchers, gym subsidiaries, dental, critical illness and life assurance cover, bicycle purchase availability, wine club membership, and accountant help to fill out tax returns, massage treatments for purchase, and canteen for miscellaneous purchases ("The Wrigley Company,", 2007).}
\end{quote}

Employees also receive one box of either gum or mints per month. As employees have contributed to the development of their own benefit packages, they are more inclined to positively respond to these rewards. They also have locations around the United States, Australia/New Zealand, China, Taiwan, and in many European countries. Wrigley has many opportunities for continuous learning and uses a lot of company resources and money for employee development.

\textit{Ultratech}

One benefit of Ultratech is that the company provides legal assistance for employees as discussed on the company website. They were cited as 2003 Best Employers for Workers Over 50, as they provide retirement planning specifically for former and retired employees. They also recognize these employees over the age of 50 with AARP initiations. As noted on their website, they strive to prevent pollution and increase the awareness of recycling. They are also striving to make their company more environmentally friendly. The company employs a significant amount of career development and training as well as opportunities for advancement. They place a special emphasis on education (training, specifically) and communication (Landon, 2003). These
practices (among seven other steps) enabled them to reach quality management system certification (ISO 9000) of their subsidiary, Ultratech Stepper, one of the first to be certified. As they were able to implement the process very quickly, the company saved a lot of money in the implementation process as well as time. Ultratech also offers global opportunities specifically in Singapore, Ireland, China, Israel, and the United States. Although some benefits are provided for employees, they are not as significant as those with low residual values in their ability for the five characteristics to predict new market entrance.

**High Marketing and High R&D Residuals**

Neither Western Digital nor Columbia Sportswear is a good fit for Danneels’ model as they both generated high residual values for both second-order competences. Therefore, the five company characteristics Danneels defines are insufficient to predict these firms’ ability to enter new markets and implement new technologies. However, neither Western Digital nor Columbia Sportswear incorporates extensive human resource practices within their companies. (Initially, I also had a difficult time finding readily-available information on human resource practices from the other companies from Danneels’ study.) Less information on their human resource practices was available for public information leading me to conclude that these companies do not implement a diverse array within their companies.

**Western Digital**

Like Hershey, Western Digital also provides adoption assistance to employees’ families, as discussed on their website. During the recession of 2008, they implemented a company-wide process to reduce their labor force, significantly cutting costs—especially the salaries of
executive employees (Taub, 2008). However, they have implemented a University within the company entitled “FIT-U” for entry level engineers (Western Digital, 2011). Regarding global locations for relocation, they have jobs available in Europe, Japan, the United States, Malaysia, and Thailand with over 63,000 employees worldwide. No information was found in regards to other human resource practices the company might possess.

**Columbia Sportswear**

Columbia Sportswear offers discounted merchandise for their employees. This encourages not only the purchase of their products, but also free company advertising. No other extra benefits (aside from the typical practices as defined earlier) are provided, or at least mentioned, at Columbia Sportswear.

They do, however, have many global locations. About 1,000 employees reside in Asia (as of 2008) and they have about 15 different offices spanning from India through Vietnam and stretching across Asia to China (Waltham, 2008). In 2002, the company opened the ‘first wholly owned European distribution center’ in Cambrai, France (Moody, 2004).

Columbia Sportswear has provided a small amount of human resource practices available for public viewing. Another conclusion can be drawn that human resource practices are not a focus or priority for Columbia Sportswear or Western Digital.
CHAPTER FIVE

Positive associations between companies and categories can be drawn to analyze which human resource practices can help the model to predict second-order competences.

Consistency

Overall, each category is fairly consistent between the two companies analyzed. Within the low residual second-order competences, Hershey and C.R. Bard have about the same level of incentives and skill development. The only difference, however, is that C.R. Bard lacks fitness incentives while Hershey employs many.

Secondly, within the high R&D and low marketing residual category, GMCR and Gen-Probe also have similar human resource practices, especially regarding incentives. Within skill development, however, GMCR provides only US locations while Gen-Probe offers locations in six countries. Also, GMCR provides career development help while Gen-Probe fails to implement or discuss any.

Within the high marketing and low R&D residual category, there is a significantly large gap between the incentives offered. Wrigley implements numerous human resource practices within extra benefits, fitness incentives and social responsibility while Ultratech lists only two: legal assistance and claims to be environmentally friendly, but with no specific details. Their practices in skill development are fairly equal.

Finally, both companies with high residual values in both second-order competences have equally limited human resource practices. Regarding incentives, both offer one extra benefit each and no fitness incentives or regard to social responsibility. Within skill development, Western Digital provides FIT-U (university) for engineers while Columbia Sportswear implements no
continuous learning opportunities. Both have locations in five countries but offer no opportunities for advancement.

Within each category the two companies are all fairly consistent in regards to their human resource practices. Therefore, I am able to group them by residual category in order analyze human resource practices and draw the following conclusions about the model’s ability to predict second-order competences.

**Conclusions**

I found that companies with many diverse incentives prove to be a better fit for the model to predict at least one second-order competence. Five of the six companies where the model can predict at least one second-order competence list several extra benefits for employees. Western Digital and Columbia Sportswear (both a poor fit for the model to predict second-order competences) list only one extra benefit each: adoption assistance and discounted merchandise, respectively.

In addition, many of the companies partake in social responsibility. Half of the eight companies specifically list reducing environmental impact on their websites. The companies explain this act as providing outdoor and educational programs as well as implementing recycling programs for employees and their community. However, the companies with low marketing residual values employ a higher a degree of social responsibility. They also list specific practices and three of the four companies have links for corporate social responsibility on their website for public viewing. Furthermore, the six companies with at least one low residual (enabling the market to predict at least R&D implementation and/or entrance to new markets) all partake in corporate social responsibility to a degree. The two companies where the
model proves to be a poor fit for both second-order competences (Western Digital and Columbia Sportswear) lack social responsibility altogether.

My research also shows a positive association between fitness incentives and the model’s ability to predict at least one of the second-order competences. Four of the six companies with at least one low residual incorporate a diverse array of fitness incentives for employees. Western Digital and Columbia Sportswear (high residuals in both second-order competences) fail to incorporate any fitness incentives for employees. Therefore, I propose a positive relationship with all incentives: extra benefits, fitness incentives, and social responsibility, and their ability to help predict both second-order competences.

Furthermore, the education of diversity can provide significant contributions to the company. Regarding skill development, three of the four companies where the model proves to be a good fit to predict new market entrance with only Danneels’ five characteristics have significant human resource practices to educate employees on diversity (including Hershey, C.R. Bard, and GMCR). Fostering diverse employees (as well as cultural understanding of diverse employees) brings different backgrounds, viewpoints, and culture to an organization. Diversity allows creativity to be more prominent within an organization, increasing innovative opportunities with successful implementation of these ideas.

Hershey develops diversity education as a priority. Not only are employees exposed to different ways to understand and interact with others, but they are exposed to different working methods (France et al., 2009). Increasing the language capability of employees allows them to reach a greater clientele and have the opportunity to relocate to another facility. GMCR provides employees with Spanish language lessons and they also take trips to visit the Spanish-speaking
countries in order to visit the farmers and observe the coffee-producing process. Although no benefits of diversity were found by Gen-Probe, they view diversity as an essential component for company innovation and success. All four of these companies with low marketing residuals significantly engage in and/or encourage not only diverse employees, but education about diversity as well.

Having the ability to obtain this advantage and keep up with the current market entails researching and educating employees to effectively understand the cultures new employees bring to the company. The global market has enabled companies to acquire the best employees for the job, better aligning personal values to corporate culture. Therefore, diversity education, specifically, through continuous learning can contribute to the model’s ability to predict a company’s ability to enter new markets.

Conclusions can be drawn in regards to what practices are lacking in R&D implementation to help the model provide a better fit. Hershey and C.R. Bard (low residuals in both second-order competences) and Wrigley and Ultratech (low R&D residual values) all implement global opportunities and opportunities for advancement. Three of the four companies offer opportunities in Asia, Europe and the US. All provide opportunities in at least five different countries. They all also list internal advancement within the company either directly or indirectly and provide diverse opportunities for employees.

On the contrary, the four companies where the model is a poor fit to predict R&D implementation have some gaps within these two categories. GMCR has only opportunities available in the US, but they offer career development. Gen-Probe offers many global locations (in 6 countries) but fail to list any internal advancement or career development opportunities.
Both Western Digital and Columbia Sportswear offer diverse locations (in at least 5 countries) but also fail to offer opportunities for advancement. Therefore, I draw the conclusions that to help the model predict R&D implementation, assessing opportunities for advancement within human resource practices would help the model to provide a more accurate fit.

To conclude, all companies where the model proves to be a good fit to predict new market entrance through Danneels’ five characteristics have nearly all six categories of human resource practices: extra benefits, fitness incentives, social responsibility incentives, continuous learning, global opportunities, and recognition/advancement. Therefore, I propose that human resource practices are a sixth company characteristic enabling the prediction of entering new markets through the model.

However, there are two errors with my conclusion. Wrigley Jr. Co also employs significant human resource practices but lacks the ability for only the five characteristics to predict new market entrance; this proves my theory to be not entirely accurate. On the contrary, this research has shown that human resource practices can significantly contribute to the model’s ability to predict market entrance with this sixth company characteristic.

I also propose that skill development can help the model to predict R&D implementation, specifically within global opportunities and opportunities for advancement. However, there are also several errors with this prediction if the two companies within each category contradict each other. For example, I conclude that global opportunities and opportunities for advancement enable the model to help predict R&D implementation. However, for the two companies with high R&D and low market residuals: GMCR offers no global opportunities, but opportunities for advancement while Gen-Probe offers many diverse locations, but no opportunities for
advancement. Therefore, this may help the model to predict R&D implementation but it cannot serve as an additional characteristic alone.

From this research, the conclusion can be drawn that all six human resource practices can contribute as an additional company characteristic to help predict a firm’s ability to enter to new markets. However, this assumption will not be entirely accurate as it would still result in a high marketing residual for Ultratech, who doesn’t employ significant human resource practices. Also, human resource practices developing skills will contribute to helping the model to predict R&D implementation. However, this research leaves room to explore more company characteristics in addition to company human resource practices and Danneels’ model of five: “constructive conflict, willingness to cannibalize, slack, learning from failure, and various types of environmental scanning” as human resources practices are not along significant to fix the poor fits of the model (2011).

Innovation is vital to the success of any company. The global world continues to expand, making competition progressively threatening. An adaptable company encouraging employee initiative is vital to its innovation and survival (Hall et al., 1994). In regards to innovation, many more human resource practices can be linked indirectly and possibly directly to company innovation as well as other company characteristics, providing a basis for further sustainable research in this field. As there are errors in my theory of using human resource practices as a sixth company characteristic to predict new market entrance and new technology implementation, there is additional research potential in searching for additional characteristics to help predict these two second-order competences.
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