Allied Academies International Conference

Las Vegas, Nevada October 10-13, 2012

Business Studies Academy

PROCEEDINGS

Copyright 2012 by the DreamCatchers Group, LLC, Arden, NC, USA

All authors execute a publication permission agreement taking sole responsibility for the information in the manuscript. The DreamCatchers Group, LLC is not responsible for the content of any individual manuscripts. Any omissions or errors are the sole responsibility of the individual authors.

The Business Studies Academy Proceedings is owned and published by the DreamCatchers Group, LLC, PO Box 1708, Arden, NC 28704, U.S.A., (828) 507-9770. Those interested in the *Proceedings*, or communicating with the *Proceedings*, should contact the Executive Director of the Allied Academies at info@alliedacademies.org.

Copyright 2012 by the DreamCatchers Group, LLC, Arden, NC

Table of Contents

EVIDENCE BASED MANAGEMENT:
A PRACTICAL APPROACH
Stephen Betts, William Paterson University
Thomas Roberts, William Paterson University
THE RELATIONSHIP OF TRAINING AND DEVELOPMENT AND JOB
SATISFACTION WITH EMPLOYEES' PERFORMANCE AND
MODERATING EFFECT OF KNOWLEDGE MANAGEMENT
Aftab Bhatti, Air University
Atiq-ur-Rehman, Air University
Khurram Shehzad, Ripha University
PROTECTED CONCERTED ACTIVITY UNDER THE NATIONAL LABOR
RELATIONS ACT AND EMPLOYEE USE OF SOCIAL MEDIA
Gerald E. Calvasina, Southern Utah University
Richard V. Calvasina, University of West Florida
Eugene J. Calvasina, Southern University
PAY FOR PERFORMANCE-EFFECTIVE REWARD SYSTEM OR FLAWED
BUSINESS MODEL?: AN EXAMINATION OF MAJOR LEAGUE BASEBALL 1
Brent C. Estes, SamHoustonStateUniversity
Ryan K. Zapalac, SamHoustonStateUniversity
CSR GOES NATIONAL: A REVIEW OF THE NIGERIAN NATIONAL YOUTH
SERVICE CORPS SCHEME
Jelena Zivkovic, American University of Nigeria
HYPERCHOICE AND ITS IMPACT ON NIGERIAN CONSUMER'S LEVEL OF
SATSIFACTION
Maryam Awaisu, American University of Nigeria
Jelena Zivkovic, American University of Nigeria
Arthur Ume, American University of Nigeria

SAVE MONEY LIVE BETTER: AN ANALYSIS OF WAL-MART'S STORY	. 25
Martin Meyers, University of Wisconsin – Stevens Point	
DIGNITY, SELF-WORTH, AND CONFIDENCE	. 29
Ervin Starr, Roberts Wesleyan College	
RESEARCH METHODOLOGY FOR BUSINESS: CLUSTER VERSUS REGRESSION	1
ANALYSIS	. 31
Jelena Zivkovic, American University of Nigeria	
Apkar Salatian, American University of Nigeria	
Arthur Ume, American University of Nigeria	

EVIDENCE BASED MANAGEMENT: A PRACTICAL APPROACH

Stephen Betts, William Paterson University Thomas Roberts, William Paterson University

ABSTRACT

Organizations are often criticized for making decisions based on hype, past practice, expedience or other factors while minimizing or ignoring available evidence regarding the effectiveness of the alternatives considered. Evidence-Based Management is an emerging perspective that emphasizes the use of available evidence to inform decisions and guide practice. Proponents of Evidence-Based Management use Evidence-Based Medicine and other Evidence-Based practices as models and attempt to apply the principles of scientific inquiry and analysis to organizational decision making. In this paper we review the current state of evidence based management and make practical recommendations for academics and practitioners.

THE RELATIONSHIP OF TRAINING AND DEVELOPMENT AND JOB SATISFACTION WITH EMPLOYEES' PERFORMANCE AND MODERATING EFFECT OF KNOWLEDGE MANAGEMENT

Aftab Bhatti, Air University Atiq-ur-Rehman, Air University Khurram Shehzad, Ripha University

ABSTRACT

The primary objective of this study is to find out the moderating effect of knowledge management (KM) on the relationship of job satisfaction and training and development (T&D) with employees' performance. Analysis is based on data collected from 228 respondents from top, middle and lower level of management representing six oil companies working in Pakistan.

Multiple Moderated Regression through SPSS has been used for the statistical analysis. The results have shown that T&D and job satisfaction has positive effect on employee performance.

However, the study does not show any moderating effect of KM on the said antecedents of employees' performance. The study can be helpful to the managers to evaluate the performance of their employees from human resource, organizational behavior or knowledge management perspective. Limitations and direction for future studies have also been discussed

Key Words: Training and Development, Job satisfaction, Knowledge Management, employees' performance, oil companies, Pakistan.

Page 4	Allied Academies International Conference

PROTECTED CONCERTED ACTIVITY UNDER THE NATIONAL LABOR RELATIONS ACT AND EMPLOYEE USE OF SOCIAL MEDIA

Gerald E. Calvasina, Southern Utah University Richard V. Calvasina, University of West Florida Eugene J. Calvasina, Southern University

ABSTRACT

National Labor Relations Board (NLRB) Chairman Mark Gaston Pearce thinks that "the right to engage in protected concerted activity is one of the best kept secrets of the National Labor Relations Act", and "that a right only has value when people know it exists" (NLRB, 2012). The launch of a webpage by the NLRB to make the public aware of the rights of employees to act together for their mutual aid and protection, even if they are not in a union, highlights the agency's recent efforts to reign in employer efforts to control employee use of social media with respect to employee engagement in protected concerted activity. NLRB efforts are being praised by organized labor and its supporters and roundly criticized by opponents. The purpose of this paper is to examine employee use of social media regarding protected concerted activity, the efforts by the NLRB to facilitate employees' ability to engage in protected activity via social media, and what should employers be doing to facilitate compliance with the NLRB's recent efforts to reign in employers' efforts to control employee use of social media.

WHAT IS SOCIAL MEDIA?

Social media has been broadly defined as "any web-based applications that allow people to broadcast information to an entire network" (Deschenaux, 2011). Numerous potential benefits and legal risks for organizations have been identified in the literature, and the ever increasing utilization of social media by individuals and organizations has been characterized as being similar to "the disruptive impact of the internet itself back in the 1990's" (Deffebach, 2011). Never the less, the use of social media by employees in organizations has been characterized as "soaring" world-wide in 2011 (Brin, 2012).

Palo Alto Networks, a network security company, surveyed 1,600 enterprises between April 2011 and November 2011 and reported "a 300 percent increase in active social networking (e.g., posting, applications) compared with activity during the same period in the latter half of 2010" (Palo Alto Networks, 2012). Palo Alto Network's chief marketing officer Rene Bonvanie noted "whether or not employees are using social networks or sharing files at work is no longer a

question: this data clearly demonstrates that users are embracing and actively using such applications" (Palo Alto Networks, 2012). Facebook alone has been identified as having nearly 500 million users (Deschenaux, 2011).

Researchers of another recent study commissioned by Google reported that "businesses and their leaders are getting over the initial fears about using social tools in the workplace and are recognizing that they have strategic value" and "hoped to increase their on-the-job use of social media tools"(Leonard, 2012). Some of the potential benefits that organizations may obtain from utilization of social networking platforms include improved communication and productivity (SHRM.org, 2010).

In addition to potential risks associated with violations of the NLRA, a number of legal issues and other laws associated with employee use of social media have been identified in the literature and are listed in Table 1.

Table 1. Potential legal issues and laws associated with employee use of social media.

Trademark and or copyright infringement

Privacy rights (Fair Credit Reporting Act (FCRA) & Genetic Information Nondiscrimination Act (GINA)

Insider trading

FTC rules on blogging

Employees using social media may defame another individual

Disclosure of trade secrets

Increased exposure to discrimination or harassment charges (Anti-Discrimination Laws (Title VII)

Careless employee driving of a company vehicle

State & Federal laws regulating employer screening of social media sites in selection processes

Sources: Hettinga, Ploor, & Immel (2010), Deschenaux (2011), DiBianca, (2012), and Gross (2012).

Efforts by employers to control the increased use of social media by employees have contributed to many of the legal issues that have been identified. Employers' efforts to block, ban or impose limitations on social media use are also in part creating additional legal headaches employers have had to deal with (Deffebach, 2011).

Employers themselves have also created problems for themselves in how they have been using social media. For example, employers using information from applicants' social network sites as part of their selection processes have given rise to allegations involving violations of privacy and civil rights statutes (Thompson, 2012). Some employers have been requiring applicants to provide their passwords to social media sites to enable employers to access otherwise restricted on-line information about the applicants. Allegations in this area have received attention at both the state and federal level of government and the call for increased regulation to curtail employer practices (Smith, 2012). Representative Eliot Engel has introduced the Social Networking Online Protection Act (SNOPA) at the federal level and a number of states including Maryland, Michigan, Minnesota, Missouri, New York, South Carolina, and Washington have been considering legislation to prohibit employers from

requiring job applicants to provide employers with log-in information for their social media sites (DiBianca, 2012).

WHAT IS PROTECTED CONCERTED ACTIVITY?

Section 7 of the National Labor Relations Act (NLRA) gives employees "the right to self-organization, to form, join, or assist labor organizations, to bargain collectively through representatives of their own choosing, and to engage in other concerted activities for the purpose of collective bargaining or other mutual aid or protection" (Sec. 7, NLRA, 2012). The basic rights protected by Section 7 involve efforts by employees to act together attempting to improve their pay and working conditions or to fix job-related problems, even when they are not represented by a labor union. Employees of employers covered by the NLRA who are fired, suspended or otherwise penalized for engaging in protected concerted activity are protected.

The NLRB's attention in this area has been on-going. In August of 2011, January of 2012, and again in May of 2012, Acting General Counsel for the NLRB Lafe E. Solomon issued reports dealing with the use of social media in the workplace. The General Counsel carries out the "prosecutorial function" of the NLRB and is appointed by the President and approved by the US Senate. The General Counsel oversees elections, investigates unfair labor practice charges and, where appropriate prosecutes such charges (Grossman, 2012). Noting the increased use of social media in the workplace by employers and employees, the reports focused on policies and rules developed by employers to facilitate effective use of social media in the workplace. These polices covered a variety of topics including confidentiality, privacy protection of employer information, intellectual property, and contact with the media and governmental agencies (Solomon, 2012). The report examined seven recent cases and the Acting General Counsel concluded that in six of the cases, some of the provisions in the employers' policies and rules were overbroad and thus unlawful. In one case, he did conclude that the entire social policy "as revised" was lawful under the NLRA (Solomon, 2012).

WHAT CAN AN EMPLOYER DO?

Solomon's report did include one employer's "revised" social media policy that included examples of prohibited conduct that the NLRB did conclude was lawful in full. The case involving Walmart's social media policy dated back to July of 2010. Walmart's initial policy was deemed to be unlawfully overbroad (Kearney, 2012). While the Walmart policy includes many of the prohibitions on issues such as being honest and accurate, posting only appropriate and respectful content, and using social media at work, the policy is not ambiguous as to its application to Section 7 activity and does not contain limiting language as to employee's Section 7 rights. Further, the "employer's rule provides sufficient examples of plainly egregious conduct so that employees would not reasonably construe the rule to prohibit Section 7 conduct

(Kearney, 2012). Specific sections of Walmart's policy that Solomon noted in his report that satisfied the NLRB's initial concerns also included the "employer's rule prohibiting inappropriate postings that may include discriminatory remarks, harassment and threats of violence or similar inappropriate or unlawful conduct" (Solomon, 2012). The rule dealing with being "respectful", "fair and courteous" when posting included specific examples of "plainly egregious conduct" and thus not overly broad admonition that could be interpreted to chill employee Section 7 rights (Solomon, 2012). While employers may legally prohibit all computer activity at work that is not work-related, this effort "may not yield optimal results" given the current attitude toward the use of social media (SHRM.org, 2010).

SUMMARY AND COCNCLUSIONS

As evidenced by the three reports issued by the General Counsel's office with respect to employer policies and rules on employee use of social media and their impact on employees' Section 7 rights, it is clear that given the ever increasing use of social media in the United States and around the world, employers must exercise caution when attempting to regulate employee use of social media. Employers should remember that "there is no one-size-fits-all approach" when it comes to developing a social media policy for their organization (SHRM.org, 2010). There are many potential benefits that both employers and employees may enjoy from utilizing social media. There are also many potential legal and employee relations pitfalls that a less than comprehensive and well-defined social media policy can create.

REFERENCES

- Brin, Dinah Wisenberg (2012). Social networking use soars in workplaces around the world, downloaded 6/27/2012 from http://shrm.org/hrdisciplines/technology/articles/pages/socialne...
- Deffebach, Matthew (2011). Blocking employee use of social media? It's time to rethink why, downloaded 6/27/2012 from http://prnewsonline.com/prinsiders/Blocking-Employee-Use-of-...
- Deschenaux, Joanne (2011). Employee use of social media laws fail to keep pace with technology, downloaded 6/27/2012 from http://www.shrm.org/legalissues/federalresources/pages/employeeuseo...
- DiBianca, Molly (2012). More states consider facebook-privacy legislation, downloaded 6/25/2012 from http://www.delawareemploymentlawblog.com/2012/04/states-consider...
- Gross, Jeffrey (2012). Why businesses need a policy governing employee use of social media, downloaded 6/27/2012 from http://www.jdsupra.com/post/documentViewer.aspx?fid=6007c5d2-3069-4bf4-8a64-5ecad10b3886.
- Grossman, Robert J. (2012). The nlrb flexes its muscles, HR Magazine, August 2012, pp. 30-36.

- Hettinga, Andrew, Ploor, Pamela, and Immel, Otto (2010). Employee social networking hidden dangers for employers, downloaded 6/27/2012 from http://www.quarles.com/publications/Detailaspx?publication=f44348...
- Kearney, Barry J. (2012). Advice memorandum from associate general counsel division of advice, Walmart Case 11-CA-067171, downloaded from http://www.nlrb.gov.
- Leonard, Bill (2012). Google survey examines social medial use in business, downloaded 7/27/2012 from http://www.shrm.org/hrdisciplines/global/Articles/Pages/GoogleSurv...
- NLRB, (2012). NLRB launches webpage describing protected concerted activity, NLRB Office of Public Affairs, downloaded 6/26/2012 from http://www.nlrb.gov/news/nlrb-launches-webpage-describing-protected-concerted-activity.
- Palo Alto Networks (2012). Employees three times more active on social networking applications than previous year, downloaded 6/25/2012 from http://www.paloaltonetworks.com/news/press/2012/2012-0117-aur.html
- Sec. 7, NLRA (1935). Downloaded 7/30, 2012 from http://www.nlrb.gov/concerted-activity .
- Segal, Jonathan A. (2011). Dancing on the edge of a volcano, HRMagazine, April 2011, 83-86.
- SHRM.org (2010). What are the advantages and disadvantages of social networking sites? What should we include in a policy? Downloaded 8/31/2011 from http://www.shrm.org/TemplatesTools/hrqa/Pages/socialnetworkingsitespolicy.aspx .
- Smith, Allen (2012). Social networking online protection act introduced, downloaded 6/25/2012 from http://www.shrm.org/LegalIssues/FederalResources/Pages?SNOPA.aspx .
- Solomon, Lafe E. (2012). Report of the acting general counsel concerning social media cases, downloaded 6/25/2012 from http://www.nlrb.gov/news/acting-general-counsel-releases-report-employer-social-media-policies Operations Management Memo.
- Thompson, Teresa (2012). Are you prying into applicant's private space? The questionable practice of asking applicants for passwords or access to private social networks, downloaded 6/25/2012 from http://www.networkedlawyers.com/are-you-prying-into-applicant's-pri...

PAY FOR PERFORMANCE-EFFECTIVE REWARD SYSTEM OR FLAWED BUSINESS MODEL?: AN EXAMINATION OF MAJOR LEAGUE BASEBALL

Brent C. Estes, SamHoustonStateUniversity Ryan K. Zapalac, SamHoustonStateUniversity

ABSTRACT

The complex relationship between pay and performance has long been a source of much internal debate and theoretical discussion among workers, business leaders, and academic scholars. Determining a relatively definitive managerial approach to pay structures and reward systems in many organizations has been difficult due to both the variability of worker productivity and the ever-changing demands of organizations on their employees. Many organizations in today's competitive marketplace rely on a pay-for-performance compensation model in order to both retain/attract "high performing" workers and maximize profits through increased productivity of those employees. Essentially, the questions that most often arise with respect to a pay-for-performance structure are "Are organizations paying workers to reward them for past performance or to motivate them for future productivity?" and "If this type of compensation model is implemented as a motivation tactic, then what happens to worker productivity when the proverbial "carrot" is taken away?". This study attempts to answer these questions and provide insight into the effectiveness of a pay-for-performance compensation model by using expectancy theory of worker motivation to examine productivity of Major League Baseball players before and after the introduction of salary rewards associated with free agency.

CSR GOES NATIONAL: A REVIEW OF THE NIGERIAN NATIONAL YOUTH SERVICE CORPS SCHEME

Jelena Zivkovic, American University of Nigeria

ABSTRACT

The concept of Corporate Social Responsibility (CSR) which requires companies to treat all their stakeholders in an ethical and socially responsible manner has gained primacy all over the world in the course of the last two decades. Today, companies are expected to behave responsibly and the number of CSR initiatives has risen significantly as companies seek to become more competitive and foster greater social cohesion. This paper sets out to demonstrate how the National Youth Service Corp scheme in Nigeria acts as a CSR program on a national level. This paper has underscored the importance of the NYSC scheme in Nigeria and the role that this scheme has played in fostering unity and also bringing about community development. The program has had significant success in promoting national integration in the multi-ethnic nation of Nigeria. The paper is presented as a literature review discussing the impact and criticism of NYSC and how these program goals are closely align to CSR.

Keywords: CSR, NYSC, Nigeria, National Youth Service Corp

INTRODUCTION

The concept of Corporate Social Responsibility (CSR) which requires companies to treat all their stakeholders in an ethical and socially responsible manner has gained primacy all over the world in the course of the last two decades. Today, companies are expected to behave responsibly and the number of CSR initiatives has risen significantly as companies seek to become more competitive and foster greater social cohesion. Emphasize on CSR has been due to the realization that corporate responsibility is necessary if a corporation wants to increase its chances of succeeding. A concept generated from the NYSC and CSR is coined by the author as National Social Responsibility (NSR) which explores how a nation treats its stakeholders (citizens) in a responsible manner. Jawahir and Hopkins (2008) lament that while CSR has been implemented aggressively in many countries; most nation states lack social responsibility programs for their citizens who are the key stakeholders of the state. In spite of the poor results in NSR inititiatives by many states, there have been some NSR programs which have shown great success. An example of this is the National Youth Service Corps Schemes (NYSC) which

is a Nigerian national youth programme that runs for one year. While the NYSC was originally created as a Peace Keeping initiative, the program has become an instrument of making the youth more socially responsible. This paper will set out to illustrate the similarities between CSR and the national youth service initiative in Nigeria so as to demonstrate that the NYSC is a successful model of how corporate social responsibility can impact a nation.

SNAPSHOT OF NIGERIA

Nigeria is a developing country in Africa and it is ranked as the most populous nation in the continent. Elaigwu (2008) documents that "Nigeria has a total area of 932,768 square kilometers and boasts of a population of about 130 million people, as well as a population growth rate of 2.6 percent" (p.1).

Nigeria has had a turbulent history after it attained independence from Britain. The country gained its independence from Britain in 1960 and a government was formed with Nnamdi Azikiwe being the first president of the country. Due to the huge militarization of the country that followed these coups, there was a secession attempt by the Eastern Nigeria region and this sparked a civil war in 1967. The war ended in 1970 having caused the death of up to 3 million people and greatly damaged the infrastructure of the young nation. Even though the federal government of Nigeria won the war, it realized that for peace to prevail in the multiethnic and multi-religious country, unity had to be achieved among the various constituent parts of the state. Achieving nationwide unity in Nigeria was going to be hard since the country has many ethnic groups (estimated to be around 375) and there is no common ancestry upon which loyalty for the land could be based. It was therefore recognized that the desired unity and true feelings of loyalty for the state were not going to come about naturally but they could only be achieved through a deliberate social process which is referred to as the National Youth Service Corps.

NATIONAL YOUTH SERVICE CORPS PROGRAM

The National Youth Service Corp (NYSC) was started in 1973 under the leadership of the military head of state, General Yakubu Gowon. Agumagu, Adesope and Njoku (2006) note that the core objective of the scheme is to instill in the Nigerian youth "the spirit of selfless service to the community, and emphasize the spirit of oneness and brotherhood of all Nigerians irrespective of cultural or social background" (p.70). The initiative also has unity as a central point to the entire scheme. Agumagu et al. (2006) point out that as a result of the turbulent history experienced by Nigeria since her independence, there is need for unity among the people. The NYSC program is compulsory for all graduates in Nigeria since if it were voluntary in nature, only a few youths would be willing to engage in it and this would hurt the vital goal of enhancing national unity in the highest number of people. The NYSC scheme encourages the

youth to serve their nation in whatever capacity they have professional training in (Agumagu, et al., 2006). All corps members are expected to make positive contributions to the communities where they are serving.

The scheme is made up of four phases which are undertaken in a sequential manner. The first phase is mobilization where the corps members are posted to the various stations where they will serve. In order to achieve the objective of forging unity and inter-ethnic understanding, members of the NYSC are required to serve in states far away from their own home state so that they can learn the ways of life of culturally different Nigerians. Being posted in other states also helps to get rid of stereotypical views that the individual might have had concerning other ethnic groups and a more liberal outlook is adopted by the corps member (Agumagu et al., 2006).

While the need for the NYSC was acknowledged by the political leaders and the youths of Nigeria, the initial reaction to the NYSC scheme was not favorable and there was widespread opposition to the program by many students. This opposition which mostly emerged from the university students was because the students had not been involved in the development of the program and there was little attempt by the government to promote the ideals of the scheme to the population. However, the scheme came to be accepted by the youth and it has been running successfully for the past 29 years.

LITERATURE REVIEW

From its conception, the NYSC had political motivations and the government of Nigeria hoped to advance some values using the program. The government had witnessed a breakdown in relations between people of differing ethnic groups and a civil war which led to immense losses for many Nigerians. For the nation to succeed in future, plans had to be put in place to foster reconciliation and promote peace and unity in the country and the NYSC purported to fulfill this objectives (Agumagu et al., 2006). In a similar manner, CSR acknowledges the political realities in the environment the company exists and stays in tune with sociopolitical movements for social equity and justice. As such, CSR is influenced by the political environment and some of the activities implemented are politically motivated.

A core goal of the NYSC is to encourage self-reliance in the Nigerian youths. NYSC aims to foster the spirit of entrepreneurship in corps members and therefore enable them to become self-employed once they are through with the program. This deemphasize on dependency on public service employment is crucial in Nigeria where the number of employment candidates far outweighs the employment opportunities provided by the government and the private sector. CSR initiatives aim to achieve the same results for the community. Kent, Cheney, and Roper (2007) reveal that some CSR programs target unemployed members of the community and help to make them self-reliant and establish their own income generating activities.

CSR aims to address the particular social problem of social exclusion which is where some individuals or groups lack access to rights and benefits that are fundamental to other members of the community. CSR helps to alleviate this problem though implementations of programs which help enhance the social inclusion. Companies can also take up greater advocacy for sufficient social changes so as to foster social inclusion and therefore benefit the previously marginalized groups (Agumagu et al., 2006). The NYSC also promotes social inclusion through the interaction among corps members and with the communities. Through interaction among the corps members, graduates hailing from varied ethno-cultural groups are able to appreciate the similarities existing between their cultures. Interaction with the communities leads to a reduction in ethnic chauvinism and the graduates are able to develop healthy attitudes towards groups that were otherwise excluded.

Most CSR efforts have a number of tangible contributions to the society. For example, some companies build social facilities such as hospitals, schools, and roads for the community that they interact with. Others contribute labor to health care facilities or even homeless shelters. These physical contributions improve the lives of the society and also increase the wellbeing of the community members. The NYSC scheme also brings about some tangible benefits to the various stations where the corps members are deployed. These contributions are mostly in the form of skilled manpower supply and in the education sector where a majority of the corps members serve in (Agumagu et al., 2006).

The NYSC stresses on sustainability and it teaches the corps members to protect the nation's environment and natural resources. This is because sustainable development is critical to the overall long-term well-being of the society and it is a core objective for many governments (Sherraden, 2001). For any development to be regarded as sustainable, it has to meet the needs of the present without compromising the ability of future generations to meet their own needs. CSR initiatives take this into consideration and all possible measures are made to use resources in a responsible manner.

DISCUSSION

Social responsibility has become an indispensable component for both corporations and nation states since it has not only social but economic consequences. This paper has provided a discussion of the NYSC in Nigeria and how it serves as a National Social Responsibility program. The National Youth Service Corps has been in operation since 1973 and the scheme has been instrumental in promoting service to the nation by the youths. The need for unity in Nigeria cannot be over emphasized considering the upsurge in inter-faith clashes that the country has experienced in the previous years. The program has been able to bridge the gap that exists between the different peoples of the nation and therefore enhance unity and peaceful co-existence in Nigeria.

The NYSC as a National Social Responsibility has some major advantages over CSR. Kent et al. (2007) states that CSR sometimes fails to work as well as it could due to the voluntary nature of CSR. The CSR targets set by companies are therefore not always met since there is no binding obligation for the company to achieve these objectives. The regulations set to govern the CSR can also be changed as the company deems appropriate and not all companies will be willing to incur extra expenses in the name of CSR. In contrast to this, the NYSC program is compulsory for all graduates in Nigeria and the graduates cannot be legally employed until they have served they have completed their one year of service and have a certificate to attest to this. The scheme is therefore able to meet its targets since there is a binding obligation for the corps members to engage in the activities assigned to them.

CONCLUSION

This paper set out to demonstrate how the NYSC scheme in Nigeria acts as a CSR program on a national level. The paper has demonstrated that while CSR is often associated with businesses, NSR emulates some of the philosophies of CSR albeit at a national level. This paper has underscored the importance of the NYSC scheme in Nigeria and the role that this scheme has played in fostering unity and also bringing about community development. The program has had significant success in promoting national integration in the multi-ethnic nation of Nigeria. Moreover, the scheme has inculcated civic ethos and improved the standard of living for a significant number of communities in the rural areas of Nigeria. The NYSC has served as an essential pillar of nation building and how its relevance in the country is still strong even after 29 years of existence. This paper has noted that there are many attributes of the NYSC which are similar to Corporate Social Responsibility. It can therefore be suggested that the NYSC scheme takes CSR to a national level since the program is implemented through the entire country. The NYSC has gone beyond inculcating the spirit of service and patriotism in the nation's youth; it has proved to be an adept tool for national social service with many positive results being reaped by the communities and the nation as a whole.

REFERENCES

- Agumagu, A.C., Adesope, O.M. & Njoku, M.C. (2006). Attitude of youth corpers towards the community development service of NYSC in Nigeria. *Journal of Agriculture and Social Research*, 6(1), 70-75.
- Elaigwu, J.I. (2008). The Federal Republic of Nigeria. NY: International Association of Centers for Federal Studies.
- Jawahir, A. & Hopkins, M. (2008). *National social responsibility (NSR) and nation states*. Retrieved from: http://mhcinternational.com/monthly-features/articles/96-national-social-responsibility

- Kent, S., Cheney, G., & Roper, J. (2007). *The Debate over corporate social responsibility*. Cambridge: Oxford University Press.
- Obadare, E. (2005). Statism, youth and the civic imagination: A Critical Study of the National Youth Service Corps (NYSC) Programme in Nigeria. St Louis: Center for Social Development.
- Sherraden, M. (2001). *Civic service: Issues, outlook, institution building (CSD Perspective)*. St Louis, Center for Social Development.

HYPERCHOICE AND ITS IMPACT ON NIGERIAN CONSUMER'S LEVEL OF SATSIFACTION

Maryam Awaisu, American University of Nigeria Jelena Zivkovic, American University of Nigeria Arthur Ume, American University of Nigeria

ABSTRACT

Hyperchoice is a term used when there are an excessive number of alternatives or choices – hyper referring to as 'too much'. In recent times, having many alternatives or choices seem to be the norm in many retail outlets however little has been researched on the level of satisfaction that is achieved in relation to the number of choices for north Nigerian consumers. This research collected 100 respondents' surveys from one of the busiest small grocery outlets in the capital city of Adamawa state. The findings are revealing. That is the number of options available to the consumer does not in any way affect the level of consumer satisfaction which is contrary to some findings in a 'western' context. The relationship between the number of options considered before buying and regret after purchase was high only for body creams. This information gathered here may help business analysts and consumer behaviourists to rethink marketing and business strategies and to further investigate into consumer purchasing habits. Creating a strong consumer profile of north Nigerian consumers may assist with on-going research in a wide array of other disciplines as this region of Nigeria develops.

Keywords: hyperchoice, Nigeria, satisfaction

INTRODUCTION

More and more decisions confront consumers today. Even while shopping, consumers face countless options to choose from. This scenario of choice overload can be referred to as 'hyperchoice'. Even though more choice helps us to find the product that is most suitable to our needs, it makes the decision-making process difficult and may lead to post-purchase dissonance. This occurs when a person has to choose from a large variety of products and then after purchasing feels dissatisfied and disappointed with his/her decision and may regret their purchase decision later (Scheibehenne et al., 2009). The buyer can also get de-motivated if he/she is unable to make appropriate choices of their purchase.

More than ever, organizations strive for customer satisfaction, offering them a range of products to suit every need. This study focuses on the how more or less choices have an impact

on consumer satisfaction. This particular research takes place in the capital city of Adamawa State, Jimeta-Yola, which has an approximate population of about 100,000 residents. 'Yakubu', a well-established, small and quaint grocery outlet is located along a busy roadside. 'Yakubu' is one of the long standing retail outlet that sells imported canned food items, makeup, toiletries, hardware and other knick-knacks. Transactions are carried out manually since the first day. No receipts are given unless requested, no cash register can be seen and little anti-theft measures are obviously utilized. The American University of Nigeria and a large federal university are located in the vicinity, so buyers at Yakubu include students, and professionals. In general, Yakubu is not a place where majority of the local residents would purchase their daily groceries because of the high cost and limited fresh items.

Yakubu is an ideal location to carry out the research on hyperchoice and satisfaction because of the many choices that are available, number of customers, convenience and comfort of the patrons and researcher.

The value of this research is contributed to the fact that not much disciplinary research has been carried out in the northern regions of the country. With more than 100,000 people that live within the Jimeta-Yola, capital city of Adamawa which is located in North-East Nigeria, Adamawa is one of Nigeria's 19 northern states and is primarily an agrarian one. This particular research will provide a better appreciation on the behaviours of consumers in this developing region and contributes literature to this rather limited topic area.

LITERATURE REVIEW

Hyperchoice is a concept that explains the ability of consumers to process product and brand information. The link between hyperchoice and consumer decision making first appeared in the information-load literature. Information load means "the variety of stimuli (in type and number) to which the receiver must attend". It was discovered in the early 1970's that human beings are able to process limited information and if they exceed that limit, it results in confusion and human behaviour dysfunction. In simpler terms, when humans are overloaded with lots of information, it leads to negative results according to Bons (2008).

As confirmed by other scholars being confronted by many choices can sometimes lead to negative consequences. Recent empirical findings imply that a consumer who is faced by many choices will eventually experience dissatisfaction, disappointment, confusion and regret. The consumer's motivation and willingness to consume will diminish. There can also be many psychological effects such as frustration, stress, a loss of self-esteem and will power. An overload of choices will exhaust the consumer and he/she will become 'choice fatigued.' (Bons, 2008; Scheibehenne et al., 2009)

Conversely, having a lot of options to choose from is considered advantageous in fields as economics, psychology, marketing and management science. Consumers consider this as a form of liberty as it allows them to buy anything and increases their self-determination. Having a

variety to choose from helps cut search costs, allows easier comparison and increases the chances of the consumer buying a product that exactly suits his/her needs (Scheibehenne et. al., 2009; Bons, 2008).

A substantial amount of literature has been written regarding the need to meet the positive expectations and perceptions of consumers. According to Williams et al. (2003:59), "satisfied customers are also more economical to an organization as they not only generate repeat business but they will also recommend the service to others". Additionally, if your products meet customer expectations and satisfy their needs, then they will be willing to pay more for it, which will result in higher customer loyalty. Although this paper does not describe the relationship between loyalty and satisfaction, nonetheless, it is assumed that if a consumer is satisfied, there is some loyalty expected.

THE STUDY

A quantitative research was carried out to examine the relationship between consumer satisfaction and the number of choices available. A questionnaire was used as a method for data collection. This is the best method for data collection because it is relatively efficient and the possibility of respondent misunderstanding is low.

The questionnaire included questions regarding the demographic characteristics of respondents, while most of the study related questions were close-ended and related to consumer buying behaviour, their decision-making process and post-purchase dissonance felt by them. The questions also helped examine the other hypothesis regarding customer choices.

From previous experiences and the literature studied, the researchers arrived at the following hypothesis.

- a. The number of choices does affect consumer satisfaction with choice made.
- b. The higher the number of alternatives, the lower the satisfaction level.
- c. Consumers typically do not know that such a relationship exists.
- d. Consumers prefer having many choices to choose from.

The sample size chosen for the study was 100 respondents using non-probability sampling. This mall-intercept method did not include children and teenagers because of the belief that they will not be able to provide reliable insight for the study.

The drawbacks of this survey include urban bias due to the fact that this survey is only confined to the urban population. Another drawback which can impact answers can be the interviewer's unintentional or intentional influence. Also, anonymity of respondent will be low and follow-up on the study will be difficult.

FINDINGS

The demographics section required respondents to give their address, educational qualification, profession, work experience, gender and age. Out of the respondents, 54% were degree holders, 44% were undergraduates and 2% had received no form of education.

The responses from the respondents were run through frequency tests. The calculated mode clearly demonstrated that for milk, 52% respondents considered just two brands, 46% respondents considered 3 scents of room freshener, 32% of respondents preferred three kinds of body cream and 36% respondents preferred three kinds of bathing soaps.

It was evident from the results that the easiest purchase decision for 65% consumers was milk, for 33% was room freshener, for 37% was body cream and for 41% was bathing soap. The highest level of satisfaction after purchase was for milk, which constituted 65% respondents. The level of regret according to the results is low for all four products. The relationship between having too many choices and feeling regret after purchase was lowest for milk. For other products involved in the study, the degree of relationship was high.

DISCUSSION

The results produced some unexpected results. According to the findings, it shows that the number of options available to the consumer does not in any way affect the level of consumer satisfaction.

Also, the relationship, the number of choices and the difficulty in decision-making was directly proportional. This means that as the number of choices increase, consumers found it more difficult to decide which product to choose.

The relationship between the number of options considered before buying and regret after purchase was high only for body creams. For the rest of the products, the relationship was insignificant.

Even though customers find difficulty in choosing what to buy if the number of options increases, yet results here show, that they prefer having a considerable number of options to choose from. This way they can make purchases based on their needs.

CONCLUSION

To sum up the results of the research, it is visible that the satisfaction of the customer does not depend on the number of choices; in fact, it makes it difficult for them to choose any one option. The body cream was the only product that seemed to have the highest level of regret after purchase. Most consumers felt that no relationship existed between number of options and regret after purchase except for body cream, no other products showed it. Lastly, consumers do appreciate a large variety of options to choose from.

Hyperchoice is a concept that can be applied across industries and fields as well as human inclinations of self-esteem, stress and frustration. It is recommended to continue the research in the area of consumer behavior as the northern region continues to develop and more variety and selection start to play a greater role in the community.

REFERENCES

- Bons, P. (2008). The art of choosing. (Unpublished doctoral dissertation). Maastricht University, Netherlands.
- Greifeneder, R., Scheibehenne, B., & Kleber, N. (2010). Less may be more when choosing is difficult: choice complexity and too much choice. *Acta Psychologica*, 133, 45-50.
- Scheibehenne, B., Greifeneder, R., & Todd, P.M. (2009). What moderates the too-much-choice effect? *Journal of Psychology* & Marketing, 26(3), 230-248.
- Scheibehenne, B. (2009). *The effect of having too much choice*. (Unpublished doctoral dissertation). Humboldt University, Germany.
- Williams, C & Buswell, J. (2003). Service quality in leisure and tourism. London: CABI Publishing

SAVE MONEY LIVE BETTER: AN ANALYSIS OF WAL-MART'S STORY

Martin Meyers, University of Wisconsin – Stevens Point

ABSTRACT

This paper discusses the corporate storytelling that Wal-Mart uses. Wal-Mart's story is that people save money and live better by shopping at Wal-Mart. The focus of this paper is an analysis of the accuracy of this story with a focus on the saving money for grocery item purchases.

INTRODUCTION

Wal-Mart began selling food in 1988 and in 2002 became the largest grocery store chain in the United States. In 2004, U.S. grocery sales from Wal-Mart totaled \$80 billion (Agnese, 2005). Wal-Mart accounts for 24% of Del Monte food sales (Bianco & Zellner, 2003). Wal-Mart hires 2.2 million associates worldwide and reports annual sales of approximately \$444 billion. Wal-Mart is the largest retailer in the world (Wal-Mart, 2012).

The author selected this topic due to an interest in corporate storytelling of large corporations. Corporate storytelling is the practice of using narration from within the organization relating to its people, practices, policies, and visions to effectively engage (Gill, 2011). Storytelling can be effective in business settings because in meetings managers often prefer stories instead of abstract arguments or statistical measures (Jameson, 2001). Storytelling is becoming more widely used in advertising to build customer loyalty. This will likely continue to be a marketing trend because many consumers have a need to be entertained. Stories are illustrative, easily memorable and allow any firm to create stronger emotional bonds with the customers (Lury, 2004).

Wal-Mart uses newspaper advertising to promote their low prices. For example, a full page advertisement appeared in the Chicago Tribune on July 1, 2012, where prices on identical shopping lists were compared between a Wal-Mart and a Dominick's in a suburban location. There were 34 items on the shopping lists. The advertisement refers to it as Julie's List, which promotes a personal story. There is a savings of 24% at the Wal-Mart store.

METHODOLOGY

The author developed a shopping list with a variety of different items such as cereal, yogurt, orange juice, chocolate, olive oil, and potato chips. The author developed his own list to determine if there was selection bias in the Wal-Mart advertisement. Prices for these items were gathered at the local Wal-Mart and Copps grocery store for comparison. (Copps is the name of a grocery store chain in the state of Wisconsin. It was founded by the Copps family and has since been sold to one of the chains).

RESULTS, ANALYSIS, AND CONCLUSIONS

There were eighteen items on the list. Thirteen of the items were cheaper at Wal-Mart. The five items that were cheaper at Copps were only by a few cents. For example Chobani yogurt was three cents cheaper at Copps. A bottle of Hidden Ranch Salad dressing was five cents cheaper at Copps. Many of the items were significantly cheaper at Wal-Mart. For example a bag of Ruffles potato chips and a box of Honey Nut Cheerios cereal were both \$1.31 cheaper at Wal-Mart The total bill for the eighteen items was \$52.31 at Wal-Mart and \$61.21 at Copps. Table 1 gives an itemized accounting of the shopping lists with their prices.

The advertisement in the Chicago Tribune reveals a savings of 24%. The author of this paper came up with a 15% savings on his list.

A further analysis does reveal that there are some advantages to shopping at Copps. For example, there has been a promotion where consumer purchases are recorded with a scanning card and there is a savings of five cents a gallon of gas for every fifty dollars of purchases. The gasoline discount is available at a number of participating local gasoline stations. Further, Copps generally offers customers the opportunity to participate in store wide promotions. For example, there is now a monopoly game where the grand prize is a \$250,000 new home. Other prizes include a new Harley Davidson motorcycle and cash.

It is true that consumers with a typical shopping list do save money if they shop at Wal-Mart. Therefore, Wal-Mart is dispensing accurate information when they promote this message to their target audiences. The author of this paper feels comfortable in writing that Wal-Mart is telling the truth when they advertise that shoppers do save money by shopping in their stores. The question can be raised if Wal-Mart's list is typical because their study reports a greater amount of savings compared to the list used by the author of this paper.

FUTURE RESEARCH

A future paper will be an analysis of the accuracy of Wal-Mart's claim concerning living better. This paper would address how Wal-Mart impacts the communities where they have built stores.

The paper would consider how Wal-Mart has impacted the local businesses in the communities where they have built stores. Extensive research has been done on this topic. For example, studies in Iowa have shown that some small towns lose up to 47% of their retail trade after ten years of a nearby Wal-Mart store. In fact, research claims go as far as to say that the impact of Wal-Mart can be the disappearance of small, locally-owned businesses (Stone, 1997).

The issue of buying locally will be explored. Wal-Mart is increasing their efforts to buy local. It is difficult to determine how much is motivated by costs savings associated with saving on fuel and reducing product spoilage or responding to changes in consumer preferences. Wal-Mart says that it spotlights fruits and vegetables as locally grown only if they come from the state in which it sells them. In the larger states it can mean that the produce is grown over 300 miles from where it is sold. Some critics say that Wal-Mart is often relabeling items as local when they would have been bought instate anyway. For examples, potatoes sold in Wisconsin would most likely have been grown in Wisconsin anyway (Bustillo and Kesmodel, 2011)

Table 1: Prices at Wal-Mart Compared to Copps Grocery Store			
Item	Wal-Mart's Price	Copps' Price	
Advil 200 mg. 100 coated tablets	\$7.97	\$9.79	
Honey Nut Cheerios, 21.6 oz.	\$3.98	\$5.29	
Bertolli Olive Oil, 17 oz.	\$6.34	\$6.89	
Perpsi 2 liter plastic bottle	\$1.38	\$1.89	
Minute Maid Orange juice 59 oz.	\$2.98	\$3.59	
Chobani Yogurt 6 oz.	\$1.26	\$1.23	
Banquet Turkey Pot Pie 7 oz.	\$0.88	\$0.99	
Ore Ida frozen French fries, 26 oz.	\$2.96	\$2.50	
Kemp's Frozen Yogurt 1.5 Quarts	\$3.75	\$4.49	
Ruffles Original Potato Chips, 9.5 oz.	\$2.98	\$4.29	
McCormick's Cinnamon, 2.37 oz.	\$2.48	\$2.55	
Hershey Kisses, 12 oz.	\$2.88	\$3.99	
Chef Boyardd Beeferoni, 40 oz.	\$2.50	\$2.84	
Starkist Abacore Tuna, 5 oz.	\$1.62	\$1.55	
Campbells Vegetable Beef	\$1.44	\$1.58	
Hidden Valley Ranch Dressing, 24 oz.	\$3.32	\$3.27	
Del Monte Bananas per pound	\$0.54	\$0.49	
Del Monte Pineapple	\$2.99	\$3.99	
TOTAL	\$52.31	\$61.21	

Another issue to be addressed will be social capital, which deals with community civic capacity. More specifically, this deals with businesses giving back to the community where they operate. There is research that indicates the presence of Wal-Mart results in social capital stocks declining in local communities (Goetz and Rapasingha, 2006). On the other hand, Wal-Mart's Volunteerism Always Pays Program (VAP) awards nonprofit organizations with financial contributions when Wal-Mart Associates volunteer. During the fiscal year ending January 31,

2012 associates volunteered over 1 million hours that resulted in \$13 million in grants to local nonprofits. In 2010, Wal-Mart and the Wal-Mart Foundation made a \$2 billion commitment to end hunger in the United States. Wal-Mart does not limit their giving back to communities in the United States. Wal-Mart is contributing and raising \$3 million for the Breakfast Clubs of Canada, a national non-profit organization with the mission of feeding children and youth in low-income communities throughout Canada. (Wal-Mart,2012).

REFERENCES

Agnese, J. (July, 2005), Supermarkets Face Supersize Rivals, Business Week

Bianco, A., and Zellner, W. (October, 2003), Is Wal-Mart too Powerful? Business Week

Bustillo, M., Kesmodel, D. Local Grows on Wal-Mart, Wall Street Journal: August 1, 2011

Gill. R. (2011) An Integrative View of Storytelling: Using Corporate Stories to Strengthen Employee Engagement and Internal and External Reputation, *Prism* 8 (1): www.prismjournal.org/homepage.htm

Goetz, S. and Rupansia, A., (2006), Wal-Mart and Social Change, *American Journal of Economics*, 88 (5) pp. 1304 - 1310

Jameson, Daphne A. (2001) Narrative Discourse and Management Action, *Journal of Business Communication*, 38 (4), pp. 476 – 511

Lury, Giles (2004), Once Upon a Time, *Brand Strategy*, Issue 182, p.32

Stone, K. (1997), Impact of the Wal-Mart Phenomenon on Rural Communities, Farm Foundation, pp. 189 -200.

Wal-Mart, (2012) Wal-Mart Fact Sheets. Available online: www.walmartstores,com/pressroom (Accessed, 7/19/2012)

DIGNITY, SELF-WORTH, AND CONFIDENCE

Ervin Starr, Roberts Wesleyan College

ABSTRACT

Since the creation of Adam, in the Garden of Eden, mankind has been destined to labor. Work's fulfillment and challenge was impacted by the fall, but it is still a large part of our identity as human beings.

During the Summer of 2010 I had the opportunity to travel with Hope International, a Christian micro-finance NGO, to the Dominican Republic. Working with Hope's local partner, Esperanza, I was involved with a team that interviewed over 50 borrowers. Our intention was to assist Hope in understanding the spiritual impact of their micro-finance work.

While we were able to see a marked increase in church attendance, personal feelings of connection to God, and a desire to learn more about God through the Bible, there were other important observations deserving consideration.

Micro-finance, started in the early 1970's through the work of people like Muhammad Yunus in Bangladesh and the Grameen Bank. Micro-finance lending agencies have been implemented widely across the globe as a means of fighting poverty and creating much needed jobs. From grassroots operations to large scale government owned banks and the work of the World Bank, loans from \$25-\$1,500 US have been made to small scale entrepreneurs to start or grow their businesses. Businesses range from a variety of retail establishments, agricultural crops and coops, to service and technology providers.

The remarkable story over the past 40 years has been the poor's repayment rates. In many well run micro-finance institutions repayment is at 98% or more. Attributed in part to an emphasis on female lending, women being more long-term focused in their spending and community/social pressure to repay, in the absence of traditional securitized collateral.

The ability of micro-finance to lift people, families, and communities out of poverty is an issue of much debate. My observations during the interviews seemed to indicate marginal financial improvement for most of the participants. A couple exceptions were two borrowers who were able to grow a more significant organization that had moved to employing others and had made significant investments in resources (e.g. refrigerated vans and technology).

The remarkable impact of micro-finance, and the work of organizations like Hope International were more clearly seen through the conversations with and observations of the borrowers (mostly women). What was consistent, clear, and observable was the strong sense of confidence participants displayed. From the way they spoke, asked questions, responded to outsiders, spoke of their families and businesses, to the non-verbal use of body language, eye contact, and posture. These borrowers demonstrated high levels of confidence.

Borrowers would be well described as having a strong sense of self-worth. Both from their increased connection to God – who values us His creation and from their own accomplishment – achieving meaningful work that contributed to emotion, mental, physical, and fiscal health for them and their families.

The sense of dignity arising from a purpose and place in their family and community reverberated through the discussions. Pride, a healthy pride, in one's accomplishment and seeing the fruit of one's labor was evident.

Thankfulness for the assistance of Hope/Esperanza and the other borrowers was also evident in the conversations. Choice of words like partner and opportunity showed appreciation combined with recognition of their own achievement. Many of the borrowers expressed or had already taken additional loans, a fact that hints at the value of the program and staff of Esperanza.

While the poor may always be with us, the value they have in the eyes of society and themselves is being improved through micro-finance programs. The preciousness of people compels us to action. Action that embraces the truth of our value and dignity, the place of work and community, and inspires us to grow closer to our Creator.

RESEARCH METHODOLOGY FOR BUSINESS: CLUSTER VERSUS REGRESSION ANALYSIS

Jelena Zivkovic, American University of Nigeria Apkar Salatian, American University of Nigeria Arthur Ume, American University of Nigeria

ABSTRACT

Quantitative data analysis is an important tool in the world of business. With the advent of the internet and advances made in telecommunication, data collection and assimilation is growing at an explosive pace, and we need better methods of data analysis to be able to cope with this rapid growth in available data. In this paper we analyse a business dataset using two very different data analysis techniques called cluster analysis and regression analysis. We will describe these processes in some detail, as well as the applicability of the methods for business research.

KEYWORDS: cluster analysis, regression analysis, quantitative, business research,

INTRODUCTION

Quantitative data analysis is an important tool in the world of business. With the advent of the internet and advances made in telecommunication, data collection and assimilation is growing at an explosive pace, and we need faster computers and better methods of data analysis to be able to cope with this rapid growth in available data.

In this study we analyse the same dataset using two very different data analysis techniques. The first technique we use is cluster analysis, and the second one is regression analysis. We will describe the processes in some detail, as well as the applicability of the methods for business research. We will then perform the analysis of the dataset using the two different methods and see what their advantages as well as some of their limitations are.

DATA ANALYSIS

For the purpose of this study we wish to determine the efficacy of two of the most popular data analysis techniques used for business research – cluster analysis and regression analysis. We shall look at each in turn.

Cluster analysis creates groups, or clusters, of data. Clusters are formed in such a way that objects in the same cluster are very similar and objects in different clusters are very distinct. Measures of similarity usually depend on the variables under consideration and often on the

purpose of the analysis. There are several types of cluster analysis techniques. For the purpose of our study we will use hierarchical clustering.

Hierarchical Clustering groups data over a variety of scales by creating a cluster tree or dendrogram. The tree is not a single set of clusters, but rather a multilevel hierarchy, where clusters at one level are joined as clusters at the next level. This allows us to decide the level or scale of clustering that is most appropriate for our analysis.

Two of the main concerns in this type of study are *the measure* and the *linkage criteria*. In the measure, we define similarity or difference. Some of the popular metrics are Euclidean distance, the absolute distance between them also known as the Manhattan distance or even the Mahalanobis distance for correlated variables. Different measures give rise to different results and this means that the choice of measure can be an important decision.

The Linkage criterion is the distance between two clusters. Some commonly used ones are complete linkage clustering, where the distance between two clusters is the maximum distance between two points in the clusters, single linkage clustering, where the distance between two clusters is the minimum distance between two points, one in each cluster, and average linkage clustering where the distance between two clusters is the average of the distance between very pair of points with one of each pair in each cluster. The different criteria can also often lead to different results and as such will need to be chosen carefully.

Regression analysis is a statistical tool for the investigation of relationships between variables. Usually, the investigator seeks to ascertain the causal effect of one variable upon another—the effect of a price increase upon demand, for example, or the effect of changes in the money supply upon the inflation rate. To explore such issues, the investigator assembles data on the underlying variables of interest and employs regression to estimate the quantitative effect of the causal variables upon the variable that they influence. The investigator also typically assesses the "statistical significance" of the estimated relationships, that is, the degree of confidence that the true relationship is close to the estimated relationship.

For purposes of illustration, suppose that we wish to identify and quantify the factors that determine earnings in the labour market. A moment's reflection suggests a myriad of factors that are associated with variations in earnings across individuals—occupation, age, experience, educational attainment, motivation, and innate ability come to mind, perhaps along with factors such as race and gender that can be of particular concern to lawyers. For the time being, let us restrict attention to a single factor—call it education. Regression analysis with a single explanatory variable is termed "simple regression."

Linear regression produces a model that is linear in the model coefficients. The most common type of linear regression is a least-squares fit, which can fit both lines and polynomials. It is known as least - squares because it works by minimising the sum of squares of the error terms (the difference between the actual value and the predicted value of the model).

RESULTS

The dataset was obtained from [1]. As the purpose of this study is to explain and demonstrate the methods of data analysis, rather than rigorously analyse a dataset to obtain information, the

quality of the data is not very important to us. In this dataset we have 38 countries, and information regarding 12 variables about them. We define our variables as follows

- 1. **Area:** The area of the country in square kilometres
- 2. **Irrigated:** The area of irrigated land in square kilometres.
- 3. **Population:** The population in millions.
- 4. **Under 14:** The percentage of the population under 14
- 5. **Life expectancy:** The life expectancy at birth in years
- 6. **Literacy rate:** The reported literacy rate in percent
- 7. **Unemployment:** The unemployment rate in percent
- 8. **ISPs/million:** The number of ISPs (Internet Service Providers) per million people
- 9. **TVs/person:** The number of television sets per person
- 10. **Railways:** The length of railways in km
- 11. **Airports:** The number of airports

No efforts have been made to establish the veracity of this data, as we are not interested in using the results of our analysis for any further purpose. Our purpose here is to use the above data to demonstrate the use and shortcomings of the two methods of data analysis we have chosen to study.

CLUSTERING

The dataset we have can be used to look at a variety of different topics. For instance we might want to cluster the countries according to the amount of area they cover, and how much of it is irrigated. This will help us decide between countries with an agricultural economy as opposed to others. Depending on the nature of the different clusters it would help us to identify countries where there was a strong market for agricultural products or not.

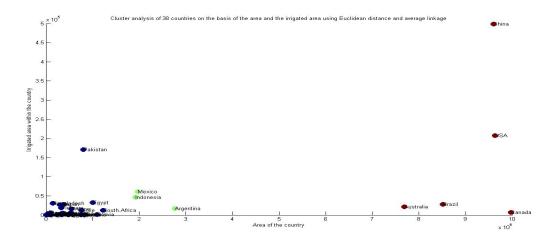


Figure 1: Cluster Analysis of Country Area and Irrigation

In each case we will perform three different hierarchical clusters, using Euclidean distance and average linkage in one, Mahalanobis distance and average linkage in one, and Euclidean distance and complete linkage in the other. This will help us see the effects of both the distance metric as well as the linkage criteria on the clustering.

An example of our cluster analyses is shown in figure 1 show that the clusters are fairly robust independent of the form of linkage used. The nature of the data for China however meant that its Euclidean distance from the other points was not the same as its Mahalanobis distance, singling it out as a single point cluster when we used the Mahalanobis distance metric. Since our diagrams assume orthogonality of the two variables, a scatter plot with perpendicular axes is not always the best way to show the efficacy of a Mahalanobis metric. For our purposes however it is sufficient to see that the choice of metric can definitely affect the clusters defined by the analysis.

From our results we can see that while clustering is robust to data points that are quite distinctively different, it does not fare well with data points that are only slightly different. A change in metric or linkage criteria can affect these quite strongly.

In the first analysis, we see that the clusters are fairly robust independent of the form of linkage used. The nature of the data for China however meant that its Euclidean distance from the other points was not the same as its Mahalanobis distance, singling it out as a single point cluster when we used the Mahalanobis distance metric. Since our diagrams assume orthogonality of the two variables, a scatter plot with perpendicular axes is not always the best way to show the efficacy of a Mahalanobis metric. For our purposes however it is sufficient to see that the choice of metric can definitely affect the clusters defined by the analysis. We see this in the second case as well where the clusters using Euclidean distance and average linkage and the clusters using Euclidean distance and complete linkage are identical whereas the clusters using Mahalanobis distance are quite different. In the third and fourth studies however, the clusters remained the same.

An important factor in cluster analysis along with the distance metric and the linkage criteria is the number of clusters to be formed. For our purposes we fixed this at three, which has been fine for our study. There is no well defined way to set the number of clusters, and the usual ways of doing so include factors such as prior knowledge, personal experience and computational ease. This is a considerable disadvantage as it introduces a great deal of subjectivity into the whole analysis.

It is also necessary to have a good understanding of how the different clustering techniques work. Complete linkage is a more extreme form of linkage than average linkage is, which implies there are cases where average linkage is more useful and some where complete would be better to use. The same goes for the distance metrics - the data can very often dictate which would be the most useful metric to use for the analysis.

REGRESSION ANALYSIS

As we see from Figure 2, some of the variables are definitely more strongly correlated than others. Ignoring the diagonal elements (which are the correlation of a variable with itself, necessarily a value of 1), we can see that there are a few correlations that stand out. The correlations between variables 2 and 3, as well as that between, variables 5 and 4, 6 and 4 and 7 and 5 are particularly strong.

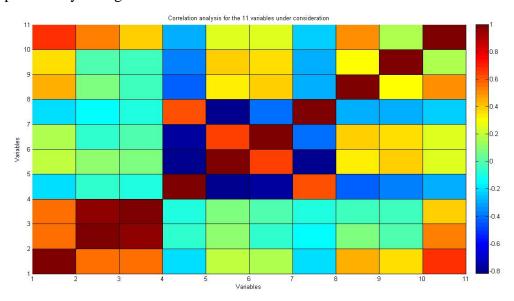


Figure 2: Correlation Analysis of 11 variables

CONCLUSION

Business research is a rapidly growing field, and it is becoming increasingly quantitative. We have focussed on two topics of quantitative analysis – Clustering and Regression analysis. On the basis of the data from our chosen dataset we have attempted to highlight some of the strengths as well as some of the deficiencies of both these methods.

Cluster analysis gives us a framework within which to identify subsets of observations on the basis of the variables we consider important. This can be very useful for a whole variety of purposes, such as sector identification, market segmentation etc. There is however a large subjective element in cluster analysis that could introduce an element of unreliability into the results. It is therefore advisable that these analyses be performed by people with a proper understanding of the data in question as well as knowledge of the workings of the clustering algorithms.

Regression analysis is also a powerful tool, but it requires some preliminary studies to verify the strength as well as relationship of the variables we are trying to analyse. This is easier to do in simple regression than it is in multivariate regression where there are more dimensions to be considered. What we have done is a very basic study of the topic which merely scratches

the surface, but does establish that these are both very useful tools for the purpose of business research.

REFERENCES

http://www.sci.usq.edu.au/staff/dunn/Datasets/applications/popular/countries.html