In this issue:

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INFORMATION SYSTEMS EDUCATION JOURNAL

Editors

Teaching Case

A Data Analytics Module Introducing Principles of Social Enterprise and Humanistic Management

Thilini Ariyachandra
ariyachandrat@xavier.edu
Xavier University
Cincinnati, OH

Hook

Are you looking to equip your students with an understanding of both analytics and humanistic principles in decision-making? Shift your students' focus from solely profit-oriented perspectives to a more humanistic, ethical approach with our module on Humanistic Management and Analytics that blends humanism and data-driven decision making. By employing a hands-on approach, your students will enhance their ability to analyze, generate, and apply metrics that matter for human dignity as well as the bottom line.

Abstract

Ongoing seismic events in global society have increased demands on organizations to change their focus on profit maximization alone to becoming a social enterprise that follows humanistic management (serving the common good) principles. Coincidentally, business schools are under pressure to teach humanistic management principles in their curriculum to enable the future work force to become agents of world benefit. Data analytics offers a means to introduce these principles to undergraduate business students. The analytics module described in this paper introduces undergraduates in an introductory Information Systems course to humanistic management. It discusses the use of humanistic management analytics (HMA), and describes an assignment to design, develop and use a HMA dashboard. Through video, lecture, case study and assignments, students learn the value of incorporating humanistic management principles to analytics and human resource functions that embody concepts of data analytics for social good.

A Data Analytics Module Introducing Principles of Social Enterprise and Humanistic Management

Thilini Ariyachandra

1. INTRODUCTION

Recent crises impacting society across the globe have created a crucial turning point to the view of companies as entities that should be solely driven by financial profit motivations. Global, national and regional cataclysmic events related to health, economy, politics and climate have begun to create serious shifts to organizations' management philosophies. Businesses are now forced to pay more attention to social concerns that go beyond financial performance and the quality of products and services. Various company stakeholders are asking for greater inclusivity, equality and sustainability. According to a Deloitte Insights report that surveyed 11,000 business leaders, in addition to financial metrics, organizations are also assessed based on their relationships with their workers, their customer and communities, as well as their impact on society at large – transforming organizations from business enterprises to social enterprises (Deloitte 2018).

The Deloitte report defines a social enterprise as an organization whose mission combines revenue growth and profit making with the need to respect and support its environment and stakeholder network. This includes listening to, investing in, and actively managing the trends that are shaping today's world. It is an organization that shoulders its responsibility to be a good citizen (both inside and outside the organization), serving as a role model for its peers and promoting a high degree of collaboration at every level of the organization (Deloitte 2018). In pursuit of the social enterprise, traditional management principles are shifting to a humanistic management approach. It is changing the perception of business less as a 'company' and more as an 'institution' that is integrated into the social fabric of society (Bersin 2018). While humanistic management is not new and was previously seen as a discretionary 'nice to do' trend in business, the urgency of its adoption has increased recently as the world has experienced various seismic societal events. For instance, a JP Morgan (2020) survey of global institutions indicated that respondents expect COVID-19 to increase awareness and investment in environmental, social and corporate governance investing in organizations.

Coincidently, business schools are being pressured to adopt humanistic management in their curricula to engender elements of social enterprise in the mindsets of the next generation of employees. For instance, the New Paradigm for Jesuit Business Education is calling for a reorientation of business education so as to address in a fundamental way the "growing challenges of the reigning economic order" such as climate and demographic changes, sociopolitical uncertainty, poverty alleviation, and global health improvement. Collectively, they affect the extant economic order and therefore call for a response. Given the central role of knowledge in understanding and solving these challenges, it seems important to prepare students in business schools to lead in the creation of a more inclusive and just world. A more inclusive and just world requires not only a humanistic approach but also integration of analytics in the management of business. This integration is feasible and essential in the era of big data, where the collection of data on justice and inclusivity allows for their consideration in management decision making processes.

The analytics module described in this paper is an attempt to integrate analytics and humanistic management principles in data driven decision making. We introduce principles of humanistic management to business students in the core introductory information systems (IS). The integration of humanistic management with analysis is an opportunity for instructors of IS to introduce to the concept of humanistic management to their students who are business majors and minors. In so doing, the instructors can help their students understand the importance of designing and using analytics from a humanistic management perspective. Our paper therefore makes a contribution in two ways. First this paper presents potential instructors with an introduction to humanistic management as well as why data analytics offers a vehicle to expose students to the humanistic approach. Second, it describes the resources and stages of the analytics module proposed to introduce analytics that is grounded in humanistic management.

2. LITERATURE REVIEW: HUMANISTIC MANAGEMENT

A review of the literature shows that humanistic management is a people-oriented approach to business conduct that seeks profits for human ends (Pirson, 2017). In that regard, it contrasts with other types of management that are essentially oriented toward profits, with people seen as mere resources to serve this goal. It involves consideration of the wholeness of the person, human dignity, shared value, transcendence, and stewardship (Kyle, 2020). These are based on the ethos for managing business: "the view of the individual and human work, the role of the individual in the society and in interacting with nature, the business firm, and the purpose of business in society" (Mele, 2016: 33). It is intended to resolve the ills that have arisen from the 'mechanistic' approach to business currently observed in the world today.

The call to humanize business derives from several sources including Pope Leo XIII in the late 19th century when he condemned situations in workshops and factories where employers laid unjust burdens upon their workmen or degraded them with conditions repugnant to their dignity as human beings. (George 1891); Catholic social teaching (see a compendium of the 20th century in PCJP 2004); the United Nations and other international organizations such as the International Labor Organization, and management scholars (e.g., Cunningham 1983; Meltzer and Wickert, 1976) have called for humanizing the workplace.

However, as prominent management scholars in the past such as Follett, Barnard and Drucker have indicated, the technical and human aspects of work are intricately intertwined. Follett (1941) noted that "we can never wholly separate the human and the mechanical problem" (p. 124), and Drucker indicated that it is important to focus on the wholeness of the person – along with power, values, structure, and responsibilities (Maciariello and Linkletter 2011; Drucker and Maciariello 2014). These observations suggest an analysis of the technical and human aspects of work.

3. HUMANISTIC MANAGEMENT ANALYTICS

We call the process of combining the technical and human aspects of work through data analysis humanistic management analytics (HMA). It involves the use of analytic tools, techniques, and processes for evaluating, deciding, and implementing programs that facilitate the integration of the human and technical elements.

It can be applied to sustainability education (i.e., such as the analysis of sustainability challenges and best practices), analysis of risk of sociopolitical uncertainty (i.e., by leveraging data analysis techniques to understand and mitigate potential risks) as well as analysis of poverty and health (e.g., examining various socioeconomic factors and health indicators to reveal correlations and insights that can inform policies and interventions) to facilitate and orient attitudes and behaviors of students. In business education, HMA involves using analytics to highlight the use of humanistic data and decision-making practices in business. HR analytics, which requires integration of business analytics and human resources data, can serve as a good illustration of HMA and highlight the importance and use of humanistic management principles in business. The field of analytics in general and HR analytics in particular, are areas that are experiencing sustained demand and growth in industry. As a result, the information systems area in a business school that typically houses analytics curriculum can be the feeding ground to expose students to humanistic management and social enterprise.

Data Analytics

The 21st century has brought a wave of innovation and economic activity centered on data (Einav and Levin 2014) known by various terminologies such as data analytics, data science, big data, and business intelligence. Gartner Research points out that advanced analytics and data science are becoming mainstream competencies in most organizations and that companies must seek to acquire talent and adapt their business models to keep pace with the competition (Laney and Jain 2017). Faced with these predictions and their own experience, companies increasingly view data analytics and associated fields as key to their future competitive strategy and their ultimate goal of profit maximization.

However, the supply of potential employees able to fill these roles is far below the demand (LinkedIn, 2018). According to IBM, 2,720,000 openings will be generated in the year 2020 in analytics (Markow, Braganza, Taska, Miller, and Hughes 2017). The US Bureau of Labor Statistics expects 11.5 million jobs to be created by 2026. Colleges and universities have responded by increasing data science and data analytics programs of study, but the number of students graduating from these programs is small in comparison to industry demand. In addition, their primary focus is on turning out graduates with the required technical and communications skills

(Lyytinen, Topi & Tang 2020) to manipulate data in innovative ways that create more market share and profits.

Demand for roles requiring knowledge and skills in analytics are increasing across the various functional areas in business. There is a need to attract more students who can combine data skills with their domain-specific skills to support decision making in different business functions such as human resources. According to a skills report by myHR future, analytics was the most demanded skill that HR professionals planned to learn in 2019 (Bailie, Ferrar and Green 2019). The human resources area is one functional area that is embracing analytics. Research by the Corporate Research Forum found that 69% of organizations with at least 10,000 employees have an entire team devoted to HR analytics activities (Schimdt & Green 2019). The demand for and success of HR analytics in organizations stems from the assumption that a company that has access to the right data and right analytical tools can create an unbiased view of the world that can lead to predicting human behavior (Angrave, Charlwood, Kirkpatrick, Lawrence, and Stuart 2016). This view inherently has challenges in reality. It also questions the view that organizations have access to rational, unbiased analytical decision making to attain profit maximization.

In decision making, users need an understanding of facts for assessment (Etlinger 2014). They need critical thinking that considers humanistic contextual elements along with factual data (Etlinger 2016) to create actionable insights. The ability to use unbiased data analytics tools (Naude 2020) such as dashboards that minimize application developers' own perceptions and biases are currently not the norm in the industry. Higher education is aware of these challenges and indicates the inclusion of "ethics, use and implications for society" as a core competency in IS programs to combat these issues (Topi, Karsten, Brown, Carvalho, Donnellan, Shen, Tan, & Thouin 2017). An AACSB Interim IS Report of Management Curriculum for the Digital Era states that "given the complexity of ethical issues raised by both analytics and AI, it is essential that graduates have effective models and frameworks to analyze the implications and potential ethical and moral consequences of emerging technologies (pg. 4)" (Lyytinen, Topi & Tang 2020).

The central theme of business education today is economic activity carried out by a company during the course of business with the primary purpose of making a profit. Principles of humanistic management stresses the importance of economic activity not solely focused on profit but to serve the common good. Humanistic management analytics provides as opportunity to look beyond the generic financial metrics utilized for data driven decision making in organizations to consider other humanistic contextual factors that can influence an organizations strategies and actions. Integrating humanistic principles to an analytics module offers students the ability to learn these principles while gaining analytics skills and knowledge.

4. MODULE ON HUMANISTIC MANAGEMENT ANALYTICS

The module proposed on humanistic management analytics aims to introduce the concepts of humanistic management (HM) and humanistic management analytics (HMA) followed by enabling students to gain hands-on experience with HMA examples. Through an experiential learning experience that develops students' analytics skills in the human resources area, they are given an opportunity to reflect between the current profit seeking perspective (i.e., homo economicus) and humanistic ethical perspective of analytics (homo ethicus). The goal of our proposal is twofold. First, we seek to awaken students to the underlying ethical challenges in using traditional HR analytics for data driven decision making and business profitability as we expose them to how dashboards are used in industry. Second, we teach students on the integration of ethics with analytics to gain a more holistic approach to data driven decision making that support human flourishing and a humanistic view organizational success.

We developed and administered the module to students taking the introductory information systems course in a college of business in the Midwest region of the USA. The four main activities of the module, its purpose and outcome are described in Table 1. Each of the activities presented in the table and the needed resources are described next.

Introduction to HM and HMA
There is a growing body of educational resources in humanistic management currently curated by several centers of excellence in HM (e.g., Fordham University Center for Humanistic Management). Using existing resources, the two short videos below offer a concise introduction to HM. The content in the two videos describe how humanistic management operates on the central

principle of placing human welfare and ethics at the forefront of business practices and organizational strategies. In a world dealing with extreme wealth inequality, HM emphasizes the equitable distribution of resources in order to reduce economic disparity and to eliminate ideological terrorism rooted in deep-seated injustices and inequities. In addition, HM advocates for sustainable and eco-friendly business practices given the climate change and widespread environmental damage done by years of negligent practices. The two videos on HM: https://www.youtube.com/watch?v=G45TfEj7p8g https://www.youtube.com/watch?v=ZFVbqsWoKOg

Once students have an understanding of HM, they are introduced to HMA through a short discussion. The slides developed to introduce HMA (i.e., handout version) and its importance can be found in Appendix A.

Following the introduction to HMA, students are given a Tableau HMA dashboard to review and interact to answer questions that pertain to human resources. Using an existing HR analytics dashboard from Tableau Public (i.e., a free software package that allows users to create interactive data visualizations for the web) that has HMA metrics, students are given questions to answer by interacting with the dashboard. Metrics on employee wellbeing, engagement, inclusion,

and performance are presented in the dashboard which enables students to see the use of analytics for HM. The assignment used for this task is presented in Appendix B.

Give students an HMA scenario and data set
Armed with experience and knowledge on HMA, students are next given an assignment that reviews a business scenario that needs the development of a HMA dashboard (See Appendix C). The case study (McCain 2009) was adopted from the Society for Human Resource Management, a non-profit professional organization that is dedicated to the advancement of human resources management professionals (https://www.shrm.org). The data set for the business scenario enhanced with HM data that corresponds to the business scenario was developed for this activity. A sample of the data set is also provided in Appendix C. Upon appraising the business scenario presented in the case study, they are asked to identify the metrics and user requirements to design a HMA dashboard.

Development of a HMA dashboard
Students first become familiar with the basic functionality of a data visualization to develop a dashboard through this step. Next, they build a basic HMA dashboard for the business scenario described in the previous activity.

#	Activity	Tasks	Purpose	Outcome
1	Introduction of HM and HMA	(a) Describe HM and HMA to students (b) Give students a HMA dashboard to answer questions.	To expose students to triggers of HMA decisions using hands-on experience of metrics and key performance indicators	Ability to critically analyze situations necessitating HMA
2	Give students an HMA scenario and data set	Require students to identify metrics of importance that correspond to the scenario	To have students learn to generate HMA questions	Ability to generate metrics that would help with decision making questions
3	Development of a HMA dashboard	Require students to design and develop and HMA dashboard	To have students generate instruments that help address HMA problems	Ability to solve problems
4	Dashboard Usage	Require students to use dashboards to make decisions that improve the HMA function	To instill in students the value of collaboration between HMA agencies.	The ability to collaborate effectively to resolve a major issue

Table 1: The Main Activities in the Module

While there are many data visualization tools in the market, Tableau offers a great introductory video tutorial along with data as well as a 14-day trial access to their software. We proposed the use of Tableau to gain basic dashboard building capabilities. The assignment to gain basic skills in Tableau can be found in Appendix D.

Once students have acquired a basic knowledge in dashboard design by working on the Tableau tutorial, next, they are asked to develop a HMA dashboard for Motors and More Inc. based on the metrics and requirements that they previously identified. The details of this assignment are also provided in Appendix D.

Dashboard Usage
Once students develop a HMA dashboard for the final activity, they manipulate and use the dashboard to meet the needs of Motors and More Inc. They also synthesize results and reflect on the value of creating HMA dashboards for data driven decision making. The assignment designed for this activity is in Appendix E.

The feedback from students after this short experimental module suggested that they enjoyed the experience and gained an appreciation for the concepts introduced. Student comments indicated that they enjoyed the interactive hands-on tasks the most. One student commented as follows in the open-ended feedback request from students, "I really appreciated the HMA dashboard assignment. It was a good example of a real HR problem solved by the IT department. In my internship, this is exactly the kind of interaction you will have at a real company. It is very beneficial for students." Another student stated, "Overall, I enjoyed this project and thought it was very beneficial, because it gave a real-world feel on how two different areas in a business interact with one another." A word cloud of the open-ended student feedback responses highlighted words such as 'helpful,' 'useful,' and 'interesting.' Given this initial success, we hope to continue developing more material with hands-on activities that integrate HMA with analytics.

5. CONCLUSION

The need for principles of social enterprise in business operations is growing in industry. The humanistic management approach can be adopted in organizations to move beyond mere profit maximization to incorporate benefits to society. Humanistic management analytics looks beyond traditional metrics to other measures that can help organizations make decisions that espouse social values. Higher education needs to better incorporate principles of social enterprise, HM and HMA in order to expose the next generation workforce to the evolving view of the organization.

The module described in this paper offers a means of introducing humanistic management principles to undergraduate business students while they gain skills in analytics and data visualization. In their anecdotal evaluation of the module, the students indicated that they had not only enjoyed the tasks in the module but also learned a lot about how HMA and IS can be integrated to generate meaningful output. Through the adoption of the resources in this module, and replicating the incorporation of HMA with analytics, instructors can give future employees a view of business that goes beyond the simple profit maximization outlook.

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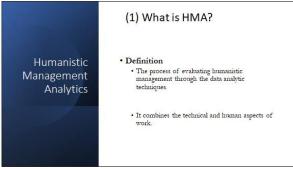
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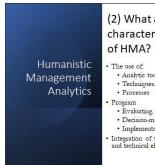
APPENDIX A
Slides on Humanistic Management Analytics

APPENDIX B
HMA Dashboard Application

Now that you have an understanding of humanistic management analytics (HMA), lets review a dashboard that displays HMA. Specifically review metrics on well being, engagement, inclusion and performance.

https://public.tableau.com/app/profile/charlotte.murray/viz/test_16130388902760/Overview

  Once you review the dashboard and become familiar with the metrics as well as functionality offered by the dashboard, answer the following questions *(Provide screen shots from the dashboard that led you to your answers):*

1. List the top 3 departments in which employees express a greater well being

2. Indicate which department has the highest engagement

3. Identify the department that has the highest performance in terms of skills, work quality, leadership and communication

4. Indicate the top three departments that are dealing with gender pay gap.

5. Examine how departments compare in terms of performance scores, inclusion, engagement and wellbeing. Identify two overall insights you can gain from this analysis.

APPENDIX C
HMA Case Analysis

The case description used to given to students can be found at -
https://www.shrm.org/content/dam/en/shrm/credentials/shrm-
certification/teaching-resources/motors-and-more-inc-a-progressive-hr-case-study-
instructors-manual.pdf

The case describes how Motors and More makes decisions to improve its human
resources. Specifically, Motors and More, Inc. Motors and More, is a business-to-
business sales company, manufactures small motors and accessories for industrial
and home products. The industry is highly competitive, and the company follows a
prospector strategy. Page 4 of the case document from the above link gives the
initial background that should be given to students along with an organizational
chart (Figure 1).

Next, review the data set related to case scenario (please find the first five rows of
the dataset which has a total of approximately 10,000 rows of data. The full data
set file is included as an attachment to this manuscript.

Date	Machine	Major Code	Manufacturing unit	Name	Workgroup	Work Description	Hrs Worked	Labour Productivity	Labour Productivity Alert	Machine Hours	Process Efficiency	Dignity	Esteem	Satisfaction
3/14/2016	ADDI-900	GML66M	CORK	Gerald Norqu	Alpha	Additive Processes	6	3.18%		0.203389831	93.85%	0.11	0.59	0.68
3/14/2016	ADDI-983	GML66M	CORK	Gerald Norqu	Alpha	Additive Processes	6	94.84%		24	23.71%	0.11	0.69	0.29
3/14/2016	ADDI-900	USS8F5	CORK	Michael Tuck	Alpha	Additive Processes	12	1.61%	RED	0.203389831	95.01%	0.13	0.2	0.59
3/14/2016	CAST-800	RITBNN	CORK	Teresa Wilco	Alpha	Casting C	4	95.64%		4	95.64%	0.06	0.53	0.32
3/14/2016	JOIN-110	RITBNN	CORK	Norma Newn	Alpha	Joining	3	96.63%		6	48.31%	0.13	0.25	0.36

Now that you have seen the role of data in decision-making for improving
employee's welfare earlier in this module, a dashboard must be designed that will
enable a manager make decisions on (a) dignity, (b) esteem, and (c) satisfaction.
Create questions (i.e., requirements for the dashboard) that you can use to develop
a dashboard to meet the decision-making needs of Motors and More. Create at least
5 questions. Here are some sample questions you could create:

Here are some questions that can be used to develop a dashboard to meet the
decision-making needs of Motors and More:
1. What is the average score for dignity, esteem, and satisfaction across all
employees?
2. How does the score for dignity, esteem, and satisfaction vary by workgroup,
manufacturing unit, and major code?
3. What is the correlation between labor productivity and dignity, esteem, and
satisfaction?
4. How does the score for dignity, esteem, and satisfaction change over time?
5. What is the relationship between machine hours and dignity, esteem, and
satisfaction?

APPENDIX D
Introduction to Tableau & HMA Dashboard Development

Let's get hands-on experience with a BI and Analytics tool! We will be using Tableau Desktop to gain analytics experience. Tableau is a recognized leader in data visualization and has a wide variety of customers from smaller organizations to fortune 500 companies. For a company profile, the Website for Tableau is http://www.tableausoftware.com/

Tableau Tool Access:
From the main page – Tableau.com – click on button for "Try Tableau for Free". Register for the 14 day trial and download Tableau.
Tableau Tool Training:
Tableau works with spreadsheets among other things. Go to https://www.tableau.com/learn/training/20211. Under Free Training Videos, watch the 9 videos Titled "Getting Started". This will take a total of 20 minutes. Through these video tutorials that requires you to work along with the tutorial on Tableau, you will gain a basic understanding of how to build a dashboard.

Assignment: HMA Dashboard Development

Now that you have reviewed the HMA case scenario and the dashboard development requirements, using Tableau, build a dashboard that provide the metrics and the needs outlined in the dashboard requirements you previously identified. The dashboard should be built in a way to provide you with visualizations that would enable you to answer questions relevant to the objectives of Motors and More Inc.

APPENDIX E
HMA Dashboard Insights

Now that you have reviewed the HMA dashboard, in light of the case scenario, analyze the data presented in the dashboard you developed. Use the dashboard to get answers to the questions that you initially created for the development of the dashboard.
Next, lets focus on questions related to humanistic management. Specifically, there are questions about dignity, esteem, and satisfaction.
B.1) What does the data reveal about these three criteria?
B.2) As a manager responsible for your employees' wellbeing, what is the relationship between rewards and:
        i) Employee dignity?
        ii) Employee satisfaction?
        iii) Employee esteem?
B.3) What measures can you put in place to measure and encourage and consequently improve employee dignity?
B.4) Does the data gathered suggest processes you could establish that positively affect employee satisfaction and esteem?