Syllabus

Course Overview

About Vila Health

In this program, a simulation of a fictitious hospital organization called Vila Health allows you to solve real problems with real analytical solutions. The media interactions can help you understand a business problem and steps you may take to solve it. It also lets you practice the role of analyst and suggests how you can articulate a solution in a manner that others can understand.

Technology Resources

Capella offers tutorials, labs, or a virtual desktop as part of this course. These resources offer software or guided practice in performing tasks related to achieving course competencies and completing assessments. If you require the use of assistive technology or alternative communication methods to participate in these activities, please contact Disability Services to request accommodations.

Course Competencies **(Read Only)**

To successfully complete this course, you will be expected to:

1. Propose potential solutions to an organizational or business problem.
2. Apply leadership and presentation techniques to influence organizational outcomes.
3. Apply project management skills to analytics projects within organizational parameters.
4. Describe change management theories and models used in analytics leadership.
5. Apply ethical practices or standards related to analytics in the use of data and information.
6. Communicate in a manner expected of an analytics professional and scholar.

Course Prerequisites

Prerequisite(s): For MS in Analytics learners only.

Syllabus ›› Course Materials

Required

The materials listed below are required to complete the learning activities in this course.

Integrated Materials

Many of your required books are available via the VitalSource Bookshelf link in the courseroom, located in your Course Tools. Registered learners in a Resource Kit program can access these materials using the courseroom link on the Friday before the course start date. Some materials are available only in hard-copy format or by using an access code. For these materials, you will receive an email with further instructions for access. Visit the Course Materials page on Campus for more information.

Software

Capella University requires learners to meet certain minimum computer requirements. The following software may go beyond those minimums and is required to complete learning activities in this course. Visit the Course Materials page on Campus for more information.
Toolwire Resource.SAS. As a Capella learner, you have access to a virtual copy of SAS, provided through the Toolwire activity. If you would like to have your own copy of SAS, you will need to purchase it directly from the manufacturer Web site. Please note that a free version, SAS University Edition, is available.

Library

The following required readings are provided in the Capella University Library or linked directly in this course. To find specific readings by journal or book title, use Journal and Book Locator. Refer to the Journal and Book Locator library guide to learn how to use this tool.

- Alderton, M. (2013). The value proposition. *PM Network, 27*(8), 40–45.
- Ali, A., & Ivanov, S. (2015). Change management issues in a large multinational corporation: A study of people and systems. *International Journal of Organizational Innovation, 8*(1), 24–30.
- Baranovsky, R. (2013). Starting from scratch. *PM Network, 27*(6), 27.
- Barton, D., & Court, D. (2012). Making advanced analytics work for you. *Harvard Business Review, 90*(10), 78–83.
- Bell, M. L., Olivier, J., & King, M. T. (2013). Scientific rigour in psycho-oncology trials: Why and how to avoid common statistical errors. *Psycho-Oncology, 22*(3), 499–505. doi:10.1002/pon.3046
- Bell, P. C. (2015). Sustaining an analytics advantage. *MIT Sloan Management Review, 56*(3), 21–24.
- Best, J. (2004). *More damned lies and statistics: How numbers confuse public issues.* Berkeley, CA: University of California Press.

- Besteiro, É. N. C., de Souza Pinto, J., & Novaski, O. (2015). Success factors in project management. *Business Management Dynamics, 4*(9), 19–34.
- Boucher Ferguson, R. (2014). Elevating data, analytics to the C-suite. *MIT Sloan Management Review, 55*(4), 1–6.
- Brown, B., Court, D., & Willmott, P. (2013). Mobilizing your c-suite for big-data analytics. *McKinsey Quarterly,* 4, 76–87.
- Bump, S. M. (2015). Powering up: How we began with data analytics. *Journal of Government Financial Management, 64*(2), 54–56.
- Cohen, I. G., Amarasingham, R., Shah, A., Xie, B., & Lo, B. (2014). The legal and ethical concerns that arise from using complex predictive analytics in health care. *Health Affairs, 33*(7), 1139–1147.
- Creasey, T., & Taylor, T. (2014). Seven greatest contributors to change management success. *People & Strategy, 37*(1), 12–16.
- Davenport, T. H. (2013). Analytics 3.0. *Harvard Business Review, 91*(12), 64–72.
- Error (statistical error). (2001). In J. Palmisano (Ed.), *World of sociology, Gale*. Farmington, MI: Gale.
- Executive sponsorship. (2010). *Business Intelligence Journal, 15*(4), 38–44.
- Grossman, R. L., & Siegel, K. P. (2014). Organizational models for big data and analytics. *Journal of Organization Design, 3*(1), 20–25. doi:10.7146/jod.3.1.9799
- Halm, D. (2014). The 30% solution: A six-step method for managing change. *OD Practitioner, 46*(1), 42–48.
- Jerzy, S. (2011). *Business intelligence: Making decisions through data analytics.* New York, NY: Business Expert Press.
- Johnson, J. E. (2012). Big data + big analytics = big opportunity. *Financial Executive, 28*(6), 50–53.
- Kimball, R. (2007). Resist the urge to start coding. *DM Review, 17*(11), 36–47.
- Kiron, D., Boucher Ferguson, R., & Kirk Prentice, P. (2013). From value to vision: Reimagining the possible with data analytics. *MIT Sloan Management Review, 54*(3), 1–19.
- Kiron, D., Kirk Prentice, P., & Boucher Ferguson, R. (2014). The analytics mandate. *MIT Sloan Management Review, 55*(4), 1–25.
- Krasnow Waterman, K., & Bruening, P. J. (2014). Big data analytics: Risks and responsibilities. *International Data Privacy Law, 4*(2), 89–95. doi:http://dx.doi.org/10.1093/idpl/ipu002
- Laursen, G. H., & Thorlund, J. (2017). *Business analytics for managers: Taking business intelligence beyond reporting* (2nd ed.). Hoboken, NJ: Wiley.
- Leonard, P. (2014). Customer data analytics: Privacy settings for 'big data' business. *International Data Privacy Law, 4*(1), 53–68. doi:http://dx.doi.org/10.1093/idpl/ipt032
- Loye, R. (2008). Requirement for knowledge management: Business driving information technology. *Journal of Knowledge Management, 12*(3), 156–168. doi:http://dx.doi.org/10.1108/13673270810875930
- Marchand, D. A., & Peppard, J. (2013). Why IT fumbles analytics. *Harvard Business Review, 91*(1/2), 104–112.
- Martin, K. E. (2015). Ethical issues in the big data industry. *MIS Quarterly Executive, 14*(2), 67–85.
- McGrath, R. E. (2011). Models of measurement error. In *Quantitative models in psychology* (pp. 125–148). Washington, DC: American Psychological Association. doi:10.1037/12316-006
- McNeely, C. L., & Hahm, J. (2014). The big (data) bang: Policy, prospects, and challenges. *Review of Policy Research, 31*(4), 304–310. doi:10.1111/ropr.12082
- Miller, J. E. (2007). Fifty tips for your statement of work. *Contract Management, 47*(8), 58–59, 61.
- Miller, P. V. (2008). Measurement error. In P. J. Lavrakas (Ed.), *Encyclopedia of survey research methods* (pp. 458–462). Thousand Oaks, CA: Sage. doi: 10.4135/9781412963947.n291
- O'Neal, C. (2012). Chapter 4, Maximizing technology's role. In *Data-driven decision making: A handbook for school leaders* (pp.59–72). Eugene, OR: ISTE.
- Pells, D. L. (2006). Chapter 5: Comprehensive planning for complex projects. In *AMA handbook of project management* (pp. 44–59). New York, NY: American Management Association.
- Pratt, M. K. (2006). How to write a statement of work. *Computerworld, 40*(21), 50.
- Project Management Institute. *A Guide to the Project Management Body of Knowledge.* 5th edition. Newtown Square. PA. 2013
- Raths, D. (2013). A moving target. *Healthcare Informatics, 29*(1), 35–41.
- Read. A. D., West, R. J., & Kelaher, B. P. (2015). Using compliance data to improve marine protected area management. *Marine Policy, 60*, 119–127.
- Reagan, J. (2008). Virtual prototyping: Bridging the business/IT gap. *Business Intelligence Journal, 13*(2), 38–48.
- Recardo, R. J., & Heather, K. (2013). Ten best practices for restructuring the organization. *Global Business & Organizational Excellence, 32*(2), 23–37. doi:10.1002/joe.21470
- Richards, N. M., & King, J. H. (2014). Big data ethics. *Wake Forest Law Review, 49*(2), 393–432.
- Sherman, R. (2006). Avoid surprises with analytical profiling. *DM Review, 16*(10), 24.
- Smith, K. (2015). Big data big concerns. *Best's Review*, 7, 58–61.
- Spencer, K. (2015). Getting to the root cause. *Quality, 54*(8), 42–45.
- Sterritt, J. W., & NyBlom, S. E. (2007). Corrective action plans: Developing and managing the process. *Professional Safety, 52*(10), 34–41.
- The change missionaries. (2014, August). *Human Capital*, 42–45.
- Tomasura, M. (2015). Business intelligence design using an interdisciplinary approach. *Business Intelligence Journal, 20*(1), 44–49.
- Van Offenbeek, M. A., & Vos, J. F. (2016). An integrative framework for managing project issues across stakeholder groups. *International Journal of Project Management, 34*(1), 44–57.
- Vaux, D. L. (2012). Research methods: Know when your numbers are significant. *Nature, 492*(7428), 180–181. doi:10.1038/492180a
- Viaene, S., & Van den Bunder, A. (2011). The secrets to managing business analytics projects. *MIT Sloan Management Review, 53*(1), 65–69.
- Vidal, L.-A., Marle, F., & Bocquet, J.-C. (2011). Using a Delphi process and the analytic hierarchy process (AHP) to evaluate the complexity of projects. *Expert Systems With Applications, 38*(5), 5388–5405.
- Williams, S. (2008). Business requirements for BI and the BI portfolio: How to get it right. *DM Review, 18*(7), 16–18.

- Williams, S. (2012). Analytics: A tool executives and managers need to embrace. *Mworld, 11*(4), 13–16.
- Xu, H. (2009). Data quality issues for accounting information systems' implementation: Systems, stakeholders, and organizational factors. *Journal of Technology Research*, 1, 1–11.

External Resource

Please note that URLs change frequently. While the URLs were current when this course was designed, some may no longer be valid. If you cannot access a specific link, contact your instructor for an alternative URL. Permissions for the following links have been either granted or deemed appropriate for educational use at the time of course publication.

- de Smith, M. J. (2015). Misuse, misinterpretation, and bias. Retrieved from http://www.statsref.com/HTML/index.html?misuse_and_abuse_of_statistics.html
- Duarte, N. (2012). How to present to senior executives. Retrieved from https://hbr.org/2012/10/how-to-present-to-senior-execu
- Ontario Ministry of Education. (n.d.). Leadership development: Ideas into action. Retrieved from http://www.edu.gov.on.ca/eng/policyfunding/leadership/ideasIntoAction.html
- Rowley, J. (2013). 5th edition PMBOK guide—Project statement of work vs. project charter. Retrieved from http://4squareviews.com/2013/03/07/5th-edition-pmbok-guide-project-statement-of-work-vs-project-charter/
- Trochim, W. (2006). Measurement error. Retrieved from http://www.socialresearchmethods.net/kb/measerr.php
- Watt, G. (2009). 10 tips for effective presentations to senior executives. Retrieved from https://pragmaticcloud.wordpress.com/when-techs-talk-to-execs/

Suggested

Optional

The following optional materials are offered to provide you with a better understanding of the topics in this course. These materials are not required to complete the course.

External Resource

Please note that URLs change frequently. While the URLs were current when this course was designed, some may no longer be valid. If you cannot access a specific link, contact your instructor for an alternative URL. Permissions for the following links have been either granted or deemed appropriate for educational use at the time of course publication.

- Beatty, J., & Wiegers, K. (n.d.). Forward thinking for tomorrow's projects requirements for business analytics. Retrieved from http://www.seilevel.com/wp-content/uploads/Requirements-for-Business-Analytics-Seilevel.pdf
- CatchCreative. (2015). FERPA training video 1 [Video]. Retrieved from https://youtu.be/1ZcU84pROa8
- Decision Lens. (2015). Webcast: Top 10 analytics tips to optimize project selection [Video]. Retrieved from https://youtu.be/J_U4K6fr3_4
- Deloitte. (n.d.). Get out of your analytics comfort zone: Unconventional approaches to predicting project outcomes. Retrieved from http://www2.deloitte.com/content/dam/Deloitte/ca/Documents/finance/ca-en-FA-get-out-of-your-analytics-comfort-zone.pdf
- Distinctive Voices. (2010). Lies, damned lies, and statistics: The misapplication of statistics in everyday life [Video]. Retrieved from https://www.youtube.com/watch?v=8Iz_cjaeao4
- Electronic Privacy Information Center. (n.d.). Gramm-Leach-Billey Act. Retrieved from http://epic.org/privacy/glba/
- Federal Trade Commission. (n.d.). Children's Online Privacy Protection Act (COPPA). Retrieved from https://www.ftc.gov/enforcement/rules/rulemaking-regulatory-reform-proceedings/childrens-online-privacy-protection-rule
- HealthIT.gov. (n.d.). Health IT legislation and regulations. Retrieved from http://www.healthit.gov/policy-researchers-implementers/hitech-act-0
- ILITA. (2011). The ethics of analytics: The limits of anonymization [Video]. Retrieved from https://youtu.be/o0goUeBF2uY
- *Lead and be the change: Mark Mueller-Eberstein at TEDxRainier* [Video]. (n.d.). Retrieved from https://www.youtube.com/watch?v=yv-QiSvuLLM&feature=youtu.be
- Leslie, N. (2012) How statistics can lie [Video]. Retrieved from https://www.youtube.com/watch?v=TiaVGBEFiZs&feature=youtu.be
- Mariner. (2011). Advice for analytics project managers [Video]. Retrieved from https://youtu.be/NBcjshMxfm0
- MMG IPA HR Services. (2015). HIPAA training video [Video]. Retrieved from https://youtu.be/mEu6NGPA0Cg
- Newsdesk. (2015, September 9). Four ways graph analytics can help data compliance. Retrieved from http://istart.com.au/news-items/four-ways-graph-analytics-can-help-data-compliance/
- Northwestern Kellogg. (n.d.). Videos: Data analytics for leaders. Retrieved from http://www.kellogg.northwestern.edu/news_articles/2014/08132014-data-analytics-spark.aspx
- O'Reilly. (2014). Projects requirements for business analytics of tomorrow [Video]. Retrieved from https://www.youtube.com/watch?v=W8CA2q4gOGg&feature=youtu.be

- Project Management Videos. (2013). Project stakeholder management plan: Managing expectations! [Video]. Retrieved from https://youtu.be/0EkufUCo5qI
- Project Management Videos. (2013). What is change management in project management terms? [Video]. Retrieved from https://youtu.be/KSHyvLjZHcw
- PWC US. (2013). Role of analytics and change management in policy admin transformation [Video]. Retrieved from https://youtu.be/zYyflxqDhsw
- Quality Resources. (2010). Creating a corrective action plan video preview [Video]. Retrieved from https://youtu.be/8VXeC0r0Pis
- Rice, S. (2015, May 6). Using analytics to grow your ethics and compliance program. Retrieved from http://chronicle.kennametal.com/using-analytics-to-grow-your-ethics-and-compliance-program/
- Schiefelbein, B., & Diana, A. J. (2015, January 13). Data analytics as an emerging tool for compliance and legal risk management. Retrieved from http://www.insidecounsel.com/2015/01/13/data-analytics-as-an-emerging-tool-for-compliance
- Smith, P. (2012) How NOT to present to the CEO [Video]. Retrieved from https://www.youtube.com/watch?v=qFsuBslLOBY&feature=youtu.be
- Staheli, R. (n.d.). 4 ways healthcare data analysts can provide their full value. Retrieved from https://www.healthcatalyst.com/healthcare-analytics-best-practices
- Strategy and Business. (2014, June 9). How to lead change management [Video]. Retrieved from http://www.strategy-business.com/article/m00024
- TDWI. (2012). Analytics and ethics with Frank Buytendijk, data management author and speaker [Video]. Retrieved from https://youtu.be/bIIkoLrZPWo
- U.S. Department of Education. (n.d.). Family Educational Rights and Privacy Act (FERPA). Retrieved from http://www.ed.gov/policy/gen/guid/fpco/ferpa/index.html
- U.S. Department of Health & Human Services. (n.d.). Health information privacy. Retrieved from http://www.hhs.gov/ocr/hipaa/
- United States Department of the Treasury. (n.d.). Bank secrecy act. Retrieved from http://www.fincen.gov/statutes_regs/bsa/
- Wedell, G. (2011). What is change management? Training video [Video]. Retrieved from https://youtu.be/__IlYNMdV9E

Unit 1 ›› Leadership in Analytics

Introduction

Strategy without tactics is the slowest route to victory. Tactics without strategy is the noise before the defeat.

— Sun Tzu

This unit will introduce you to the role of leadership in analytics within an organizational setting. As a leader, you will need to be able to identify how analytics plays a role at the strategic as well as the tactical level in delivering value to an organization.

Learning Activities

u01s1 - Studies

Readings

Complete the following readings from the Capella University Library:

- *Business Analytics for Managers: Taking Business Intelligence Beyond Reporting*:
  - Chapter 1, "The Business Analytics Model."
  - Chapter 2, "Business Analytics at the Strategic Level."
- Bell, P. C. (2015). Sustaining an analytics advantage. *MIT Sloan Management Review*, *56*(3), 21–24.
- Brown, B., Court, D., & Willmott, P. (2013). Mobilizing your c-suite for big-data analytics. *McKinsey Quarterly*, 4, 76–87.
- Boucher Ferguson, R. (2014). Elevating data, analytics to the c-suite. *MIT Sloan Management Review*, *55*(4), 1–6.
- Davenport, T. H. (2006, January). Competing on analytics. *Harvard Business Review*, 84(1), 98-107.
- Grossman, R. L., & Siegel, K. P. (2014). Organizational models for big data and analytics. *Journal of Organization Design*, *3*(1), 20–25.
- Kiron, D., Boucher Ferguson, R., & Kirk Prentice, P. (2013). From value to vision: Reimagining the possible with data analytics. *MIT Sloan Management Review*, *54*(3), 1–19.
- Kiron, D., Kirk Prentice, P., & Boucher Ferguson, R. (2014). The analytics mandate. *MIT Sloan Management Review*, *55*(4), 1–25.
- Williams, S. (2012). Analytics: A tool executives and managers need to embrace. *Mworld*, *11*(4), 13–16.

Optional Media

You may wish to view the following optional video:

- Lead and Be the Change: Mark Mueller-Eberstein at TEDxRainier.

u01s2 - Software Preparation and Technology Access

In this course, you will be using software and technology that is needed to complete designated activities and assignments. There is no additional cost for this software and technology. Some software packages will be made available to you at no additional cost through Capella's subscription with Microsoft, while other software packages are available for free download through open-source licensing.

Capella University requires learners to meet certain minimum computer requirements. Please note that some software required for a course may exceed these minimum requirements. Check the requirements for the software you may need to download and install to make sure it will work on your device. Most software will require a Windows PC. If you use a Mac, refer to Installing a Virtual Environment and Windows on a Mac.

The software and technologies below are strongly recommended to support you in completing the course objectives. If you have access to other tools that you believe may still meet the requirements of this course, please discuss your selected alternatives with your instructor.

If you use assistive technology or any alternative communication methods to access course content, please contact Disability Services with any access-related questions or to request accommodations.

For this course, follow the instructions provided through the links below to download and install software or register for an account, as required.

SAS Statistical Software

Choose one of the following:

1. SAS OnDemand for Academics (SODA) (recommended).
    - Download the SAS data files for use in the assignments: ANLT5040 Data Files [ZIP].
    - Open the file and take some time to explore this dataset to see how it was constructed.
2. SAS in Toolwire (instructions are provided in the courseroom).

u01s3 - Group Work and Personal Effectiveness

This course adheres to Belbin's Team Theory and Belbin's Nine Team Roles. Review the resources provided on Belbin and collaboration, if needed. Later in this unit you will be asked to choose a role for the group work based on these theories.

You will work with your group in Unit 2 to choose a role for each group member. To prepare for this, decide now which two to three roles you feel you are best able to fill; preferably ones that you have not yet played in previous courses.

Study Group Tasks

For each week in the course, you will find suggested study group tasks describing topics to discuss with your group within a social media setting. These topics will help guide your group toward its midpoint and final solutions; therefore, you must not skip any of these study groups if you plan to succeed on the group project.

Review the most recent Vila Health challenge and any of the materials you created or acquired during project-related or challenge activities prior to your study group meetings. Downloaded notes from the notebook can provide useful reminders and questions for your group discussion. Be sure to consider the Belbin team role you are filling for your group and consider the information in the scenario from the perspective of that role or roles.

You will encounter study group tasks each week throughout the course, and in every course that you encounter as you journey through your program.

The questions provided are meant to provide you and your group members with some guidance for your group work deliverables. These questions should not be overlooked, as they are critical to you completing the work in the course.

Study Group Meetings

Capella recommends that you use a social media channel to collaborate and connect with your group members. Work with your teammates to identify a platform you are all comfortable using (for example, Basecamp, Yammer, Google Hangouts, or Facebook) and check to make sure that this platform is also reasonably private and secure.

For example, if you decide to use Facebook, create a secret group and work within it. A secret group is invisible to the outside world, and only members can find the group and see posts. This social media group will allow you to stay connected to your team and allow you to discuss the study group topics assigned.

LinkedIn

For networking with current and past learners, we recommend that you use LinkedIn, which is a great way to stay connected to past, current, and future learners in this degree program. This will help you with networking as you move through the program and beyond.

Course Resources
Networking.
Group Collaboration Skills

u01d1 - Defining the Leadership Role in Analytics

In your view:

- What is the role of leadership in analytics?
- Is being a leader in analytics different from other leadership roles? If so, how?
- What analytics competencies should a leader have?
- What other knowledge, skill, and abilities should a leader possess beyond analytics competencies?

Response Guidelines

Read the posts of your peers and respond to the post of at least two. When responding, seek clarification, share your personal experiences that relate to their experiences, and provide feedback.

Course Resources
Graduate Discussion Participation Scoring Guide

Unit 2 >> Statement of Work

Introduction

Business requirements vary, and leaders must be able to synthesize these into a broad set of analytic requirements that functionally can meet the business requirements. The statement of work (or SOW) provides a management tool that helps to define and communicate those requirements to stakeholders in the form of the scope of the work and the time required to complete it. In this unit, you will produce a statement of work.

Learning Activities

u02s1 - Studies

Readings

Complete the following readings from the Capella University Library:

- *Business Analytics for Managers: Taking Business Intelligence Beyond Reporting*:

    - Chapter 3, "Development and Deployment of Information at the Functional Level."

- Miller, J. E. (2007). Fifty tips for your statement of work. *Contract Management*, *47*(8), 58–59, 61.
- Pells, D. L. (2006). Chapter 5: Comprehensive planning for complex projects. In *AMA handbook of project management* (pp. 44–59). New York, NY: American Management Association.
- Pratt, M. K. (2006). How to write a statement of work. *Computerworld*, *40*(21), 50.

Use the Internet to complete the following:

- Rowley, J. (2013). 5th edition PMBOK guide—Project statement of work vs. project charter. *4SquareViews*.

Optional Media

You may wish to view the following optional videos:

- Advice for Analytics Project Managers.
- Webcast: Top 10 Analytics Tips to Optimize Project Selection.

u02s2 - Study Group Tasks

By this time, your group should have chosen an area to meet outside of the courseroom to discuss these topics and formulate your recommendations. See the discussion in this unit, Planning Your Group, for more information on roles and social media.

Although many of your assignments in this course are individual and based on a topic outside of the Vila Health scenario, you should still discuss the concepts and skills with your group. What you learn can be applied to both your individual assignments and your group work.

This week's topics for group discussion:

- The role of a leader in a data analytics project.
- The purpose of a statement of work.
- The attributes of an effective statement of work.

u02a1 - Statement of Work

Assignment Overview

(This is an individual assignment.)

Leading analytical projects requires strong communication skills that include both verbal and written communication. Often the case is that decision makers and key stakeholders do not know what they need to solve their organizational and business problems, and it is up to the leader (you) to help them do that by articulating the problem and the analytical work required to address it in a way that makes sense based on the business requirements. One tool that is often used early on to help define the problem(s) and then present the solution to decision makers and stakeholders is the statement of work (or SOW). The SOW is a management tool that brings elements of a proposal and a project charter together in a succinct manner.

Assignment Instructions

Review elements of what is contained within a SOW (from this unit's studies) to create one for your individual analytic project. Propose an analytical solution to solve an organizational and/or business problem. You may select a problem or issue that is related to your current work or an area of interest to you. If you have questions about what topic to use, contact your instructor. Be sure to comprehensively document the scope of work, assumptions, timelines, resources, analytical approach to the problem, and expected outcomes.

At a minimum, you should include the following elements:

- Project overview with a description of goals and objectives.
- Business drivers that should be based on business objectives and the business requirements.
- Project scope, to include all the work to be done and what is not included in scope.
- Project assumptions covering all issues that constitute a risk to the project.

- Project management, to include resources and estimated cost.
- Project deliverables, including major output from the analytic project.
- Project timeline to highlight timeframe and any constraints including dates for deliverables.
- A list of key stakeholders who have a vested interest in the project and their roles.

Your assignment will be graded on the following criteria. Please see the Statement of Work Scoring Guide for details.

- Identify an organizational problem.
- Define the project and the business goals and objectives to be accomplished.
- Address timelines, deliverables, and constraints.
- Discuss the management of resources and costs.
- Identify major risks by including project assumptions in the SOW.
- Describe the stakeholders and their roles within an organization.

Example assignment: You may use the assignment example, linked in the resources, to give you an idea of what a Proficient or higher rating on the scoring guide would look like.

Additional Requirements

- **Written communication:** Written communication is free of errors that detract from the overall message.
- **APA formatting:** Resources and citations are formatted according to APA current edition style and formatting.
- **Number of resources:** Include a list of any articles or readings you reference or use to complete your assignment.
- **Length of paper:** 4–6 typed double-spaced pages.
- **Font and font size:** Arial, 10 point.

Course Resources

Unit 2 Assignment Example [PDF]

u02d1 - Statement of Work for Analytics Projects

For this discussion, consider:

- Why is it important to have a SOW at the beginning of a new analytics project?
- What is the likely outcome when a SOW does not exist?

Response Guidelines

Read the posts of your peers and respond to the post of at least one. When responding, seek clarification, share your personal experiences that relate to their experiences, and provide feedback.

Course Resources

Graduate Discussion Participation Scoring Guide

u02d2 - Planning Your Group

Throughout the course, you will be required to work collaboratively outside of the courseroom. By now, your instructor should have assigned you into groups of 3 to 5 members. With your group, be sure to:

- Introduce yourself to your group members. Share information about your background and experience and include your experience using and working with analytics software.
- Decide on the social media channels and/or collaborative tools that your group plans to use throughout this course.

- Meet with your group at your agreed-upon social media location and discuss logistics related to when and how you will meet.
- Choose a Belbin Team Role for each member. Decide if members need to play multiple roles. Try to choose roles that you have not played in previous courses, if possible.

Complete your group set up and role selection by Wednesday of this week.

Course Resources
Graduate Discussion Participation Scoring Guide
Group Collaboration Skills

u02v1 - Optional Toolwire Virtual Desktop

A Toolwire virtual desktop is provided in this activity for you to practice using SAS with the SAS e-courses.

If for some reason you cannot access SAS in the Toolwire environment, ask your instructor for more information.

Unit 3 >> Problem Definition

Introduction

Leaders in analytics have to translate business requirements from the strategic to the functional as well as the analytics requirements. You should review the analytic lifecycle and keep it in mind while moving forward with this unit. It is important that leaders in analytics be able to synthesize the information collected from stakeholders as part of the interviews process. One tool that helps to define that is a business requirements document.

Learning Activities

u03s1 - Studies

Readings

Complete the following readings from the Capella University Library:

- *Business Analytics for Managers: Taking Business Intelligence Beyond Reporting*:
  - Chapter 4, "Business Analytics at the Analytical Level."
- Kimball, R. (2007). Resist the urge to start coding. *DM Review*, *17*(11), 36–47.
- Loye, R. (2008). Requirement for knowledge management: Business driving information technology. *Journal of Knowledge Management*, *12*(3), 156–168.
- Raths, D. (2013). A moving target. *Healthcare Informatics*, *29*(1), 35–41.
- Reagan, J. (2008). Virtual prototyping: Bridging the business/IT gap. *Business Intelligence Journal*, *13*(2), 38–48.
- Sherman, R. (2006). Avoid surprises with analytical profiling. *DM Review*, *16*(10), 24.
- Tomasura, M. (2015). Business intelligence design using an interdisciplinary approach. *Business Intelligence Journal*, *20*(1), 44-49.
- Williams, S. (2008). Business Requirements for BI and the BI portfolio: How to get it right. *DM Review*, *18*(7), 16–18.

Optional Media

You may wish to view the following optional video:

- Projects Requirements for Business Analytics of Tomorrow. | Transcript.

u03s2 - Analytics Internship: Gaining Stakeholder Buy In

Analytics Internship: Gaining Stakeholder Buy In Image

Analytics Internship: Gaining Stakeholder Buy In

Transcript

An integral part of this course and Capella University's data analytics program is your virtual internship. Your internship is with Vila Health, a fictional health care system that operates hospitals and other health care facilities throughout the upper midwestern United States. This internship is designed to allow you to apply the skills and knowledge you are acquiring in a realistic setting. In addition to the technical requirements of the assignment, the internship also provides a context for you to develop the collaborative, interpersonal skills that employers are looking for in new data analysts.

In this first activity, you will be introduced to an outpatient clinic in the Vila Health organization, your mentor, and the case study that you focus on throughout this course. You will use the information about the case study as the context for your group discussions (Study Group Tasks) and the related assignments in the coming weeks.

Click **Analytics Internship: Gaining Stakeholder Buy In** to view the Vila Health scenario.

Course Resources

Analytics Internship: Gaining Stakeholder Buy In

u03s3 - Study Group Tasks

By this time, your group should have chosen an area to meet outside of the courseroom to discuss these topics and formulate your recommendations. See the discussion in Unit 2, Planning Your Group, for more information on roles and social media.

What you learn can be applied to both your individual assignments and your group work.

This week's topics for group discussion:

- The analytic lifecycle and its relevance to problem definition.
- The challenges and benefits of creating a set of business requirements.
- The perspective of stakeholders.

u03a1 - Problem Definition

Assignment Overview

(Individual assignment)

For this assignment you are asked to create a set of business requirements based on stakeholder interviews. The business requirements document should be outlined in a manner that clearly identifies the organizational and/or business problem(s) that you are trying to solve by applying analytics to the problem.

Assignment Instructions

Write a set of business requirements that details the specific requirements developed for your statement of work. Continue to be aware of the needs and interests of the key stakeholders at your chosen organization or department. In the summary, you should include:

- The business model of the organization you are working with.
- Clear descriptions of each requirement and how they are connected to the business model.
- How the requirements are translated into analytic requirements.
- A description of the analytic approach taken to address the problem and the expected outcomes.
- System dependencies and interrelationships.
- Data requirements to adequately address the business problem.
- Diagrams or graphics that illustrate information flow or how the requirements fit together.

Your assignment will be graded on the following criteria. Please see the Problem Definition Scoring Guide for details.

- Present a high-level business model.
- Describe the data requirements to support the analytic approach taken.
- Identify major business requirements and how they fit the business model.
- Demonstrate major system dependencies and interrelationships.
- Illustrate how the business problem is solved by analytics.
- Communicate in a manner expected of an analytics professional and scholar.

Example assignment: You may use the assignment example, linked in the resources, to give you an idea of what a Proficient or higher rating on the scoring guide would look like.

Additional Requirements

- **Written communication**: Written communication is free of errors that detract from the overall message.
- **APA formatting**: Resources and citations are formatted according to APA current edition style and formatting.
- **Number of resources**: Include a list of any articles or readings you reference or use to complete your assignment.
- **Length of paper**: 4-8 typed double-spaced pages.
- **Font and font size**: Arial, 10 point.

Course Resources

Unit 3 Assignment Example [PDF]

u03d1 - Business Requirements Document

In your opinion:

- What is a business requirements document?
- Where does the information contained in the business requirements document come from, and why is it important?
- How is a business requirements document related to the analytics lifecycle?

Response Guidelines

Read the posts of your peers and respond to the post of at least one. When responding, seek clarification, share your personal experiences that relate to their experiences, and provide feedback.

Course Resources

Graduate Discussion Participation Scoring Guide

u03v1 - Optional Toolwire Virtual Desktop

A Toolwire virtual desktop is provided in this activity for you to practice using SAS with the SAS e-courses.

If for some reason you cannot access SAS in the Toolwire environment, ask your instructor for more information.

Unit 4 >> Stakeholder Buy In

Introduction

So far, you have defined the scope of work and what it will take to get it completed. You understand business requirements and know what it will take analytically to complete a scope of work and solve an organizational and/or business problem. Analytics leaders must lead decision makers and stakeholders to the same conclusions and get their buy in. In this unit, you will produce a presentation that will be used to get stakeholder buy in for the analytic project.

Learning Activities

u04s1 - Studies

Readings

Complete the following readings from the Capella University Library:

- *Business Analytics for Managers: Taking Business Intelligence Beyond Reporting*:
  - Chapter 8, "Assessment and Prioritization of Business Analytics Projects."
- Alderton, M. (2013). The value proposition. *PM Network*, *27*(8), 40–45.
- Baranovsky, R. (2013). Starting from scratch. *PM Network*, *27*(6), 27.
- Executive sponsorship. (2010). *Business Intelligence Journal*, *15*(4), 38–44.
- Johnson, J. E. (2012). Big data + big analytics = big opportunity. *Financial Executive*, *28*(6), 50–53.
- van Offenbeek, M. A., & Vos, J. F. (2016). An integrative framework for managing project issues across stakeholder groups. *International Journal of Project Management*, *34*(1), 44–57.
- Xu, H. (2009). Data quality issues for accounting information systems' implementation: Systems, stakeholders, and organizational factors. *Journal of Technology Research*, 1, 1–11.

The following required reading is available full-text in the Capella University Library. Search for the article by clicking the linked title and following the instructions in the Library Guide.

- Barton, D., & Court, D. (2012). Making advanced analytics work for you. *Harvard Business Review*, *90*(10), 78–83.

Use the Internet to complete the following:

- Duarte, N. (2012). How to present to senior executives. *Harvard Business Review*.
- Watt, G. (2009). 10 tips for effective presentations to senior executives.

Optional Media

You may wish to view the following optional videos:

- Project Stakeholder Management Plan: Managing Expectations!
- How NOT to present to the CEO.

u04s2 - Study Group Tasks

The recommendations that your group agrees to this week need to be included as part of the Midpoint Review: Gaining Stakeholder Buy In and Final Report: Leadership in Analytics and will contribute to your final group project grade. Therefore, it is critical that you do not skip any of these discussions. You will be able to make changes to your recommendations at any time during the course, but skipping a topic will negatively impact your grade.

Review the Vila Health scenario. Consider the topics for group discussion as you watch. Search for details that are specific to these topics and that will aid you in making recommendations to Vila Health.

This week's topics for group discussion:

- Stakeholder considerations: How do you need to adapt your communication approach or language to be understood and appeal to their interests?
- Elements of a successful executive presentation.
- The incorporation of data into a presentation.

Course Resources

Analytics Internship: Gaining Stakeholder Buy In | Transcript

u04a1 - Midpoint Review: Gaining Stakeholder Buy In

Assignment Overview

(Group assignment)

In most organizations, a final step before beginning work is to make a presentation to key decision makers and stakeholders to get buy in and final approval for the analytic project. These can be formal and informal, but the key objective it to make sure that everyone has the same vision and understanding of the proposed analytic project. For this assignment, use the information you have gathered from Vila Health team members. Presentation and messaging should be specific to the company and address the needs and "voice" or tone of Vila Health's leaders, and the message needs to be succinct and "on point."

Assignment Instructions

To obtain stakeholder buy in and to get a firm commitment to timelines, you must have a clear and convincing presentation to your Vila Health stakeholders. You are to create a presentation which will be given to decision makers and key stakeholders. This should be accompanied with an appendix that clearly shows your rationale or process for how you arrived at your conclusions. Cite references and resources as appropriate.

At a minimum, your presentation should include the elements:

- The key messages to the major stakeholders.
- The problem statement and analytics solution.
- Objectives and goals and how they are related to business problem.
- Change outcomes to be accomplished by the analytic project.
- Resources needed to accomplish the analytic project.
- Next steps and the call to action for the stakeholders.

Your assignment will be graded on the following criteria. Please see the Midpoint Review: Gaining Stakeholder Buy In Scoring Guide for details.

- Explain the problem and analytics solution.
- Explain expected outcomes related to organizational change.
- Explain project goals and objectives in terms of the business problem.
- Define resources and their use.
- Present key messages to key stakeholders in appropriate business terms.
- Provide stakeholders with a clear call to action.
- Communicate in a manner expected of an analytics professional and scholar.

Additional Requirements

- **Written communication:** Presentation is free of errors that detract from the overall message.
- **Formatting:** Presentation maintains corporate branding. If visuals cannot be used, note where and how you would incorporate them.
- **Length of presentation:** 7–10 presentation slides, including an appendix of your rationale or process.

Course Resources

Analytics Internship: Gaining Stakeholder Buy In | Transcript

u04d1 - The Executive Presentation

Once you have completed all the necessary work and are ready to begin the analytic project, is it necessary to communicate and get buy in from decision makers and key stakeholders? If so, why?

What elements are needed in an executive level presentation?

Response Guidelines

Read the posts of your peers and respond to the post of at least one. When responding, seek clarification, share your personal experiences that relate to their experiences, and provide feedback.

Course Resources

Graduate Discussion Participation Scoring Guide

Unit 5 >> Analytic Project Planning

Introduction

You have stakeholder buy in and senior management has allocated the resources you need to get the analytic project completed. Now you have to plan out the detailed steps necessary to get the project completed within the triple constraints of time allotted, budget, and scope of work. In this unit, you will be required to complete a project plan for the analytic project that covers the entire project lifecycle including initiation, planning, execution, and closeout. You should integrate the analytic lifecycle steps into the project plan.

Learning Activities

u05s1 - Studies

Readings

Complete the following readings from the Capella University Library:

- *Business Analytics for Managers: Taking Business Intelligence Beyond Reporting*:
  - Chapter 5, "Business Analytics at the Data Warehouse Level."
  - Chapter 6, "The Company's Collection of Source Data."
- Besteiro, É. N. C., de Souza Pinto, J., & Novaski, O. (2015). Success factors in project management. *Business Management Dynamics*, *4*(9), 19–34.
- Bump, S. M. (2015). Powering up: How we began with data analytics. *Journal of Government Financial Management*, *64*(2), 54–56.
- Grossman, R. L., & Siegel, K. P. (2014). Organizational models for big data and analytics. *Journal of Organization Design*, *3*(1), 20–25.
- Viaene, S., & Van den Bunder, A. (2011). The secrets to managing business analytics projects. *MIT Sloan Management Review*, *53*(1), 65–69.
- Vidal, L.-A., Marle, F., & Bocquet, J.-C. (2011). Using a Delphi process and the analytic hierarchy process (AHP) to evaluate the complexity of projects. *Expert Systems With Applications*, *38*(5), 5388–5405.

The following required readings are available full-text in the Capella University Library. Search for each article by clicking the linked title and following the instructions in the Library Guide.

- Davenport, T. H. (2013). Analytics 3.0. *Harvard Business Review*, *91*(12), 64–72.

- Marchand, D. A., & Peppard, J. (2013). Why IT fumbles analytics. *Harvard Business Review*, *91*(1/2), 104–112.

Optional Media

You may wish to view the following optional video:

- What Is Change Management In Project Management Terms?

u05s2 - Study Group Tasks

Although many of your assignments in this course are individual and based on a topic outside of the Vila Health scenario, you should still discuss the concepts and skills with your group. What you learn can be applied to both your individual assignments and your group work.

This week's topics for group discussion:

- The project lifecycle.
- How to incorporate the analytics lifecycle into the project plan.

u05a1 - Analytic Project Planning

Assignment Overview

(Individual assignment)

The stakeholders like your presentation, and they have given their support for the project. It is now time to pin down the details of the project by completing the planning to ensure that the scope of work gets completed on time and within budget. One of the ways that this gets accomplished is through the creation of a project plan that maps out every step of the analytic project, from initiation to completion and deployment.

Assignment Instructions

To ensure that you have all the resources you need and that you and your support team can successfully meet the project scope within the timeframe allotted, you must complete a comprehensive project plan. The project plan should adhere to all major phases of the project lifecycle—initiation, planning, execution and control, and closeout.

At a minimum, your project plan must cover all phases of the analytic lifecycle and include the following:

- Data inventory and understanding.
- Assessment of data for suitability.
- Preparation and exploration of the data.
- Modeling building (build predictive models).
- Evaluation, interpretation, understanding.
- Deployment.

Your assignment will be graded on the following criteria. Please see the Analytic Project Planning Scoring Guide for more details.

- Identify deliverables and milestones in the project plan.
- Define resources, timeframes, and scope of work.
- Address all phases of the analytic lifecycle in the project plan.
- Address the phases of the project lifecycle.
- Communicate in a manner expected of an analytics professional and scholar.

Example assignment: You may use the assignment example, linked in the Resources, to give you an idea of what a Proficient or higher rating on the scoring guide would look like.

Additional Requirements

- **Written communication:** Project plan is free of errors.
- **Formatting:** Project plan should follow PMI standards according to PMBOK.
- **Tools:** Project plan should be completed in Excel, Microsoft Project or Visio.

Course Resources

A Guide to the Project Management Body of Knowledge

Unit 5 Assignment Example [XLSX]

u05d1 - Project Plans

For this discussion, consider:

- Is the management of an analytic project different from other types of projects? If so, how?
- Why do you need a project plan for an analytic project?
- What is likely to happen if you try to manage the analytic project without a project plan?

Response Guidelines

Read the posts of your peers and respond to the post of at least one. When responding, seek clarification, share your personal experiences that relate to their experiences, and provide feedback.

Course Resources

Graduate Discussion Participation Scoring Guide

u05v1 - Optional Toolwire Virtual Desktop

A Toolwire virtual desktop is provided in this activity for you to practice using SAS with the SAS e-courses.

If for some reason you cannot access SAS in the Toolwire environment, ask your instructor for more information.

Unit 6 >> Analytic Project Implementation

Introduction

The quality of a statistical product can be defined as the fitness for purpose of that product. More specifically, it is the fitness for purpose with regards to the following dimensions: relevance, accuracy, timeliness and punctuality, accessibility and clarity, and comparability and coherence. Some areas to consider when using analytical procedures include quality assurance, quality reporting, and quality improvement as well as the use of common standards and concepts.

Learning Activities

u06s1 - Studies

Readings

Complete the following readings from the Capella Library:

- Error (statistical error). (2001). In J. Palmisano (Ed.), *World of sociology, Gale*. Farmington, MI: Gale.
- Miller, P. (2008). Measurement error. In P. J. Lavrakas (Ed.), *Encyclopedia of survey research methods* (pp. 458–461). Thousand Oaks, CA: Sage.
- McGrath, R. E. (2011). Models of measurement error. In *Quantitative models in psychology* (pp. 125–148). Washington, DC: American Psychological Association.
- Bell, M. L., Olivier, J., & King, M. T. (2013). Scientific rigour in psycho-oncology trials: Why and how to avoid common statistical errors. *Psycho-Oncology*, *22*(3), 499–505.
- Best, J. (2004). Chapter 1: Missing numbers. In *More damned lies and statistics: How numbers confuse public issues*. Berkeley, CA: University of California Press.
- Vaux, D. L. (2012). Research methods: Know when your numbers are significant. *Nature*, *492*(7428), 180–181.
- Spencer, K. (2015). Getting to the root cause. *Quality*, *54*(8), 42–45.
- Sterritt, J. W., & NyBlom, S. E. (2007). Corrective action plans. *Professional Safety*, *52*(10), 34–41.

Use the Internet to complete the following:

- Trochim, W. (2006). Measurement error. *Research Methods Knowledge Base*.
- de Smith, M. J. (2015). Misuse, misinterpretation, and bias. *Statistical Analysis Handbook*.

Optional Media

You may wish to view the following optional videos:

- How Statistics Can Lie.
- Lies, Damned Lies, and Statistics.
- Creating a Corrective Action Plan Video Preview.

u06s2 - Study Group Tasks

Although many of your assignments in this course are individual and based on a topic outside of the Vila Health scenario, you should still discuss the concepts and skills with your group. What you learn can be applied to both your individual assignments and your group work.

This week's topics for group discussion:

- Assessing the quality of a statistical product.
- Addressing measurement errors.
- Appropriate and ethical use of statistics for decision making. Discuss ways in which analytics can be misinterpreted and misused.
- How a corrective action plan can be used to identify root causes to problems in analytics.

u06a1 - Analytic Project Implementation

Assignment Overview

(Individual assignment)

Analytic projects never go as planned. The data that is needed does not exist. The quality of the data is lacking. People allocated to complete the work were not available when expected. The results of the modeling did not reveal anything useful. And the list of obstacles goes on. This is how most projects go, and it requires significant leadership to keep them on track and moving forward. When a project gets derailed, it must be corrected quickly and efficiently.

Assume your project is no different: The analytic project is in trouble. Assume your team has produced a model to explain rising crime rates for a large urban city, which the mayor has shared with the chief of police and is threatening to fire her as a result. The chief of police has questioned your statistical

model and has accused the mayor of misinterpreting the data. Assume the chief of police is correct. In this unit, you will complete a corrective action plan that addresses the issues identified by the chief of police. Keep in mind the analytic lifecycle and rework the entire process to identify the problems in your analytic project and the model.

Assignment Instructions

The analytic project has encountered a number of unexpected obstacles. It is no longer on schedule, and the stakeholders are anxious to see results. Perform an analysis of the issues related to delays of the project and provide a corrective action plan to get it back on track.

Use **one** of the following approaches for your assignment:

1. **The way crime is being reported is inaccurate.** Example: Previously, crime for property theft valued less than five hundred dollars was not reported on the crime statistics analysis. After this practice changed in 2013 There appears to be a spike in the crime rate. Furthermore, it is thought that not all crime analysts in the department are following the new guidelines of recording and reporting the lower-dollar-valued crimes, so there still may be some gap in the reporting of these statistics.
2. **Selective use of data has harmed the project integrity.** Pick a period when the recorded crime rate is unusually low and comparie it to a month or year when the crime rate is unusually high. Example: Based on historic data, the crime rate for the metro area follows a seasonal trend over the past 15 years. A spike in crime is reported in the local paper as a headliner that "Crime is on the Rise." However, it was discovered that the data was compared from one year's worth of data (the first six months versus last six months). The crime rate has followed a seasonality trend for the past 15 years, with an increase in crime during the winter holiday season. However, a year-over-year comparison was not reported in the article.

Your corrective action plan must address or include:

- The key issue(s) that have caused a delay.
- An estimation of the impact on the original timeline.
- Any and all additional costs that are beyond original projections.
- A step-by-step plan that addresses the issues and provide a clear set path get the project back on course.
- Support for your plan or conclusions that may include a flowchart of the corrective action and/or a Gantt chart of the project timeline.

Your assignment will be scored on the following criteria. Please see the Analytic Project Implementation Scoring Guide for details.

- Explain the issues that caused a delay in a project.
- Define parameters or considerations for analytic decision making.
- Explain changes in a project timeline.
- Outline the impact of changes on a project in terms of risk, scope, and costs.
- Provide a clear and concise plan of action.
- Communicate in a manner expected of an analytics professional and scholar.

Reference

Wetherburn, D. (2011). Uses and abuses of crime statistics. *Crime and Justice Bulletin*. Retrieved from http://www.bocsar.nsw.gov.au/Documents/CJB/cjb153.pdf

Additional Requirements

- **Written communication:** Written communication is free of errors that detract from the overall message.
- **APA formatting:** Resources and citations are formatted according to APA current edition style and formatting.
- **Number of resources:** Include a list of any articles or readings you reference or use to complete your assignment.
- **Length of paper:** 1-3 typed double-spaced pages, including charts.
- **Font and font size:** Arial, 10 point.

u06d1 - Quality Issues and Measurement Errors

For this discussion, answer the following:

- What are some areas in which analytic products may have quality issues? How might you address these?
- What is measurement error, and why is it important?
- What are some possible ways in which analytics can be misinterpreted and misused?
- What is a corrective action plan, and how can this be used to address quality issues in analytic projects?

Response Guidelines

Read the posts of your peers and respond to the post of at least one. When responding, seek clarification, share your personal experiences that relate to their experiences, and provide feedback.

Course Resources

Graduate Discussion Participation Scoring Guide

u06d2 - Group Dynamics, Responsibilities, and Collaboration

Reflect on your group experience thus far:

- What challenges did the group face these past two weeks?
- What decisions do you think may have influenced the solution your group included in your Midpoint Review?
- How did your group decide on the objectives and problem of the case study itself?
- How do you think you impacted the group's decisions?
- What challenges do you feel you are facing as you work together to solve the problem?
- What recommendations did you share with your group?
- What feedback have you given and received this week?

Response Guidelines

Respond to at least two other learners who are not part of your group. Share with them the information in their initial post that you found most helpful for understanding the concepts.

Course Resources

Graduate Discussion Participation Scoring Guide

u06v1 - Optional Toolwire Virtual Desktop

A Toolwire virtual desktop is provided in this activity for you to practice using SAS with the SAS e-courses.

If for some reason you cannot access SAS in the Toolwire environment, ask your instructor for more information.

Unit 7 >> Change Management

Introduction

You completed the analytic project and you are now ready to deploy the new analytic model. The model will effectively meet the business requirements and solve an important business problem. However, some existing business processes will need to be reengineered and some new processes created to support the model. This has significant implications for organizational changes and personnel training that will need to accompany the model deployment.

Learning Activities

u07s1 - Studies

Readings

Complete the following readings from the Capella University Library:

- *Business Analytics for Managers: Taking Business Intelligence Beyond Reporting*:
  - Chapter 7, "Structuring of a Business Intelligence Competency Center."
- Ali, A., & Ivanov, S. (2015). Change management issues in a large multinational corporation: A study of people and systems. *International Journal of Organizational Innovation*, *8*(1), 24–30.
- Creasey, T., & Taylor, T. (2014). Seven greatest contributors to change management success. *People & Strategy*, *37*(1), 12–16.
- Halm, D. (2014). The 30% solution: A six-step method for managing change. *OD Practitioner, 46*(1), 42–48.
- Recardo, R. J., & Heather, K. (2013). Ten best practices for restructuring the organization. Global Business & Organizational Excellence, 32(2), 23–37.
- The change missionaries. (2014, August). *Human Capital*, 42–45.

Optional Media

You may wish to view the following optional videos:

- How to Lead Change Management.
- What Is Change Management? Training Video.
- Role of Analytics and Change Management in Policy Admin Transformation.

u07s2 - Analytics Internship: Leadership in Analytics

Analytics Internship: Leadership in Analytics

Transcript

Having already presented your findings and recommendations to Vila Health stakeholders, you should now check in with your mentor, Rick Susskind. He will likely have feedback from the stakeholders which could affect your next steps. Click **Analytics Internship: Leadership in Analytics** to begin the Vila Health scenario.

Course Resources

Analytics Internship: Leadership in Analytics

u07s3 - Study Group Tasks

Consider how the curveball you learned about in the Analytics Internship: Leadership in Analytics scenario will affect your final report for Vila Health stakeholders.

This week's topics for group discussion:

- How do organizational values, systems, culture, and business strategies relate to change management decisions?
- How do internal and external politics affect analytics?
- What are some concerns and considerations specific to change management in analytics?

Course Resources

Analytics Internship: Gaining Stakeholder Buy In | Transcript

Analytics Internship: Leadership in Analytics | Transcript

u07a1 - Change Management Plan

Assignment Overview

(Individual assignment)

The analytic project is complete. A model that can significantly impact the organization and improve outcomes has been developed and is ready for deployment. In order to be successful, a number of existing processes must be reengineered and some new processes must be put into place. People involved will be impacted, and therefore must be retrained.

You may use your previous individual assignments as a starting point or reference for this assignment.

Assignment Instructions

The results of the analytic project provided useful information that can now be used to deploy a predictive model. However, this also requires some organizational and cultural changes to be successfully implemented. Do an analysis of those changes and provide a plan to successfully make those changes using a standard change management model.

The change management plan must include:

- A description of the change model to be used and the justification for this particular model.
- Defined measurable objectives and a business case for their achievement.
- A strategy for monitoring assumptions, risks, dependencies, costs, return on investment, and cultural issues.
- Effective communication that informs various stakeholders of the reasons for the change, the benefits of successful implementation, as well as the details of the change.
- An effective education, training, and/or skills upgrading scheme for the organization.
- Strategies to counter resistance from employees and align them to overall strategic direction of the organization.
- A means of monitoring the implementation and fine tuning it as required.

Your assignment will be scored on the following criteria. Please see the Change Management Plan Scoring Guide for details.

- Justify the use of a selected change model.
- Provide specific measurable objectives.
- Describe a plan to monitor assumptions, risks, dependencies, costs, and cultural issues.
- Describe a plan for education and training of personnel involved in a change.
- Address the politics of change and expected cultural resistance.
- Define a mechanism for monitoring the implementation of the described change.
- Communicate in a manner expected of an analytics professional and scholar.

Example assignment: You may use the assignment example, linked in the Resources, to give you an idea of what a Proficient or higher rating on the scoring guide would look like.

Additional Requirements

- **Written communication:** Written communication is free of errors that detract from the overall message.
- **APA formatting:** Resources and citations are formatted according to APA current edition style and formatting.
- **Number of resources:** Include a list of any articles or readings you reference or use to complete your assignment.
- **Length of paper:** 5–10 typed double-spaced pages.
- **Font and font size:** Arial, 10 point

Course Resources

Unit 7 Assignment Example [DOCX]

u07d1 - Change Management in Analytics

For this discussion, explore the different models of change management.

- Which model or models make the most sense for your needs?
- How is change management related to the deployment of an analytic model?
- What is the role of a change management plan, and why do you need one?

Response Guidelines

Read the posts of your peers and respond to the post of at least one. When responding, seek clarification, share your personal experiences that relate to their experiences, and provide feedback.

Course Resources

Graduate Discussion Participation Scoring Guide

u07v1 - Optional Toolwire Virtual Desktop

A Toolwire virtual desktop is provided in this activity for you to practice using SAS with the SAS e-courses.

If for some reason you cannot access SAS in the Toolwire environment, ask your instructor for more information.

Unit 8 ›› Ethics and Policy

Introduction

Leaders in the analytics field must recognize the need for the protection of human subjects who are involved in analytic projects. There are many ethical concerns that have to do with privacy and confidentiality, and these cannot be taken lightly as they can cause irreparable harm. Moreover, government laws cover these concerns in specific industries and they must be adhered to when dealing with data that identifies a specific individual. In this unit, you are exposed to the various ethical and policy areas that may be a factor in your analytic project.

Learning Activities

u08s1 - Studies

Readings

Complete the following readings from the Capella University Library:

- *Business Analytics for Managers: Taking Business Intelligence Beyond Reporting*:
  - Chapter 9, "Business Analytics in the Future."
- Cohen, I. G., Amarasingham, R., Shah, A., Xie, B., & Lo, B. (2014). The legal and ethical concerns that arise from using complex predictive analytics in health care. *Health Affairs*, *33*(7), 1139–1147.
- Leonard, P. (2014). Customer data analytics: Privacy settings for 'big data' business. *International Data Privacy Law*, *4*(1), 53–68.
- Martin, K. E. (2015). Ethical issues in the big data industry. *MIS Quarterly Executive*, *14*(2), 67–85.
- McNeely, C. L., & Hahm, J. (2014). The big (data) bang: Policy, prospects, and challenges. *Review of Policy Research*, *31*(4), 304-310.
- Richards, N. M., & King, J. H. (2014). Big data ethics. *Wake Forest Law Review*, *49*(2), 393–432.
- Smith, K. (2015). Big data big concerns. *Best's Review,* 7, 58–61.

- Krasnow Waterman, K., & Bruening, P. J. (2014). Big data analytics: Risks and responsibilities. *International Data Privacy Law*, *4*(2), 89–95.

Optional Media

You may wish to view the following optional videos:

- Analytics and Ethics with Frank Buytendijk, Data Management Author and Speaker.
- The Ethics of Analytics: The Limits of Anonymization.

u08s2 - Study Group Tasks

The recommendations that your group agrees to this week may be included as part of the Final Report and will contribute to your final group project grade.

Review the Vila Health scenarios and consider the topics for group discussion as you watch. Search for details that are specific to these topics and that will aid you in making recommendations to Vila Health.

This week's topics for group discussion:

- The major implications of data and analytics on privacy and confidentiality when human subjects are involved.
- The implications of governmental regulations such as HIPPA and FERPA on analytic projects.
- The need for information security practices in protecting the identity of human subjects involved in analytic projects.

Course Resources

Analytics Internship: Gaining Stakeholder Buy In | Transcript

Analytics Internship: Leadership in Analytics | Transcript

u08d1 - Ethics and Analytics

For this discussion, weigh in on the following:

- What are some of the ethical considerations leaders must take into account when conducting an analytic project?
- Which major governmental regulations affect health care analytics? What are the implications of these policies on analytics projects?
- Why are privacy and confidentiality legitimate concerns for analytic projects?

Response Guidelines

Read the posts of your peers and respond to the post of at least one. When responding, seek clarification, share your personal experiences that relate to their experiences, and provide feedback.

Course Resources

Graduate Discussion Participation Scoring Guide

u08v1 - Optional Toolwire Virtual Desktop

A Toolwire virtual desktop is provided in this activity for you to practice using SAS with the SAS e-courses.

If for some reason you cannot access SAS in the Toolwire environment, ask your instructor for more information.

Unit 9 >> Managing Risks and Data Compliance

Introduction

With an increase in the availability of data, it is important to maintain compliance and control risks. In health care, mitigating risks increases the value of the customer's experience and improves the quality of care. In this lesson, you will learn to integrate data compliance for risk management.

Learning Activities

u09s1 - Studies

Readings

Using the Capella University Library, read the following:

- *Business Analytics for Managers: Taking Business Intelligence Beyond Reporting*:
  - Chapter 4, "Business Analytics at the Analytics Level."
  - Chapter 9, "Business Analytics of the Future."
- Read. A. D., West, R. J., & Kelaher, B. P. (2015). Using compliance data to improve marine protected area management. *Marine Policy*, *60*, 119–127.

Optional Internet Resources

You may wish to visit the following optional resources to learn more about the laws surrounding data privacy and how to meet these requirements:

- HIPAA Training Video.
- FERPA Training Video 1.
- Health Information Privacy. National standards to protect the privacy and confidentiality of personal health information.
- Health IT Legislation and Regulations applies the security regulations directly to the business associates of HIPAA-covered entities and clarifies restrictions on the disclosure and sale of health information.
- Family Educational Rights and Privacy Act (FERPA) protects the privacy of educational data.
- Children's Online Privacy Protection Act (COPPA) requires specific notices be given to users when collecting personal information from children under the age of 13 and establishes and maintains reasonable procedures to protect the confidentiality, security, and integrity of any collected information.
- Gramm-Leach-Billey Act provides three main requirements on financial institutions: provide notice on how personal information is shared, give consumers the option to opt out of particular sharing, and provide adequate safeguards for personal information.
- Bank Secrecy Act requires certain financial institutions to record, retain, and report certain financial transactions to the federal government.
- Data Analytics as an Emerging Tool for Compliance and Legal Risk Management.
- Four Ways That Graph Analytics Can Help Data Compliance.
- Using Analytics to Grow Your Ethics and Compliance Program.

u09s2 - Study Group Tasks

Continue working with your group to determine how to revise the recommended actions from your midpoint review to reflect the requirements you learned about in the Analytics Internship scenario you viewed in Unit 7. You may want to review the scenario prior to meeting with your study group, considering the topics for group discussion as you move through the scenario.

This week's topics for group discussion:

- Addressing concerns of higher level stakeholders.

- Making informed decisions using data analysis.

Course Resources

Analytics Internship: Gaining Stakeholder Buy In | Transcript

Analytics Internship: Leadership in Analytics | Transcript

u09d1 - Risk Management and Ethics

What best practices are vital to ensuring appropriate and effective use of compliance data? Do different industries or situations require different approaches? Share examples, experiences or concerns you have encountered in your work or industry, or raise questions pertinent to your area of interest.

Response Guidelines

Read the posts of your peers and respond to the post of at least one. When responding, seek clarification, relate to their experiences, and provide feedback.

Course Resources

Graduate Discussion Participation Scoring Guide

Unit 10 >> Effective Data Analysis for Leadership

Introduction

Data analytics leadership is about identifying an organization's needs and mapping out the work to achieve results. Throughout this course you have explored different models and strategies for managing change and influencing decision makers, learning how to move away from wishful thinking and towards realistic and viable actions. In this unit you will examine resources for combining data analytics with effective leadership and conclude your work with Vila Health.

Learning Activities

u10s1 - Studies

Readings

Complete the following readings from the Capella University Library:

- *Business Analytics for Managers: Taking Business Intelligence Beyond Reporting*:
  - Chapter 4, "Business Analytics at the Analytics Level."
  - Chapter 9, "Business Analytics of the Future."
- O'Neal, C. (2012). *Data-driven decision making : A handbook for school leaders*. Eugene, OR: ISTE.
  - Chapter 4, "Maximizing Technology's Role," pages 59–72.
- Jerzy, S. (2011). *Business intelligence: Making decisions through data analytics*. New York, NY: Business Expert Press.
  - Chapter 3, "The Basics of Business Analytics," pages 35–66.
  - Chapter 6, "Business Intelligence and Value-Based Management," pages 103–126.

Online Resources

Review the following from the Ontario Ministry of Education's Leadership Development: Ideas Into Action Web site:

- Ideas Into Action for School and System Leaders: Five Core Capacities of Effective Leaders (Updated – Winter 2012-13)
- Ideas Into Action for School and System Leaders: Engaging in Courageous Conversations (Updated – Winter 2012-13)
- Ideas Into Action for School and System Leaders: Promoting Collaborative Learning Cultures: Putting the Promise into Practice (Updated – Winter 2012-13)
- Ideas Into Action for School and System Leaders: Setting Goals: The Power of Purpose (Updated – 2014)
- Ideas Into Action for School and System Leaders: Using Data: Transforming Potential into Practice (Updated – Winter 2012-13)
- Ideas Into Action for School and System Leaders: Aligning Resources with Priorities: Focusing on What Matters Most (Fall 2012)
- Ideas Into Action for School and System Leaders: Exploring the "Social" Personal Leadership Resources: Perceiving Emotions, Managing Emotions & Acting in Emotionally Appropriate Ways (Summer 2014)

Optional Online Resources

You may find the following resources and videos helpful:

- 4 Ways Healthcare Data Analysts Can Provide Their Full Value.
- Data Analytics for Leaders:
  - Video 1 – Hitting Home Runs With Data Analytics.
  - Video 2 – Stepping Stones Into Data Science.
  - Video 3 – Judging What "Good" Data Looks Like.
  - Video 4 – How Analytics Adds Value.
  - Video 5 – How to Confidently Lead Analytics.

u10s2 - Personal Effectiveness Assessment

For this activity, you will review your peers—and they you—on personal effectiveness skills, based on contributions to the group discussions. Please complete one survey for each member of your group. The assessment addresses the following characteristics:

- Interpersonal Skills.
- Integrity.
- Professionalism.
- Initiative.
- Dependability and Reliability.
- Willingness to Learn.

At certain points in your educational journey, you will meet with your department head for a 1:1 interview. The reviewer will gather your peer's assessments and your own self-reflections and use the data from these, in conjunction with the insight obtained during the 1:1 interview, to assess your skills. Your department head will provide you with feedback specifically intended to help you improve upon these skills.

During your capstone course the capstone panel of professionals will conduct a final review of your personal effectiveness skills. This final review will be assessed and your scores will be calculated as part of your final grade.

Course Resources

Personal Effectiveness Assessment

u10a1 - Final Report: Leadership in Analytics

Assignment Overview

(Group assignment)

Data analytics leadership is about identifying an organization's needs and mapping out the work to achieve results. Throughout this course you have explored different models and strategies for managing change and influencing decision makers, learning how to move away from wishful thinking and towards realistic and viable actions.

For this Final Report, you and your group will continue work on the Vila Health Scenario. Base your report and conclusions on the Vila Health survey data summary provided throughout the course as well as any additional research you or your group have done.

Consider the following:

- How do leaders use data?
- How do you present your findings and recommendations to stakeholders? As a data analytics leader, now is the time for you to tell a story that will influence change.
    - What changes need to be made?
    - What components need to be addressed?
    - What is the process to implement the changes?

Select and explain your change management strategy: what will you do, how will you do it, what issues might come up and need to be addressed and solved. Keeping your stakeholders perspective in mind, how will improving the quality of the data and data analysis affect business concerns such as risk and costs?

Assignment Instructions

Analyze the data or summaries provided, and the updates or challenges that have occurred since your Midpoint Review. Develop a plan to correct the initiative based on the strategy you are proposing. Explain appropriate sharing of patient records and data across providers, and how you will maintain the integrity of the data. Present your conclusions and recommendations in a manner appropriate for an executive stakeholder audience.

Submit your complete final presentation and report. Address the following elements in your assignment:

- Describe change management strategy for using data and facilitating change.
- Interpret the results. Draw conclusions from the data.
- Address quality initiatives and what corrections may be needed.
- Analyze data to uncover trends. Identify demographic or subgroup affected by trends and if this affects the quality issues.
- Identify areas or components that may require further analysis (deeper dive).
- Explain project management process or techniques to implement changes and address possible issues or challenges that may arise.
- Address ethical practices for data integrity and the impact on business or stakeholder interests.
- Present conclusions. Propose recommendations and next steps to solve the organizational problem or concern. Explain the use of analytics in relation to complex problem solving from the viewpoint of higher management.

Be sure to integrate the feedback that you received from your instructor on the first half of your report into this final submission. Refer to the Final Report: Leadership in Analytics Scoring Guide for more details on how you will be graded on the following criteria:

- Apply the project management process to implement and manage changes.
- Describe a strategy for using data and facilitating change.
- Apply ethical practices for data integrity to a project.
- Address the use of analytics for problem solving from a stakeholder viewpoint.
- Propose recommendations and next steps.
- Communicate in a manner appropriate for the audience.

Additional Requirements

- **Written communication:** Presentation is free of errors that detract from the overall message.
- **Formatting:** If visuals cannot be used, note where and how you would incorporate them.
- **Length of presentation:** Approximately 5–7 presentation slides, including an appendix of your rationale or process. You can provide your explanations in a 2–3 page Word document.

Course Resources

Analytics Internship: Gaining Stakeholder Buy In | Transcript

Analytics Internship: Leadership in Analytics | Transcript