3 Cases and Projects for Hands-on Experimentation

3.1 Overview

This chapter presents several case studies and sample projects that are intended for individual investigations, classroom projects, and discussions. The topics span retail stores, healthcare centers, emarkets, and digital service centers for health, education, public safety, public welfare, and many other sectors. Several "World Vision" examples are included that concentrate on ICT (Information and Communication Technologies) for developing countries. All these case studies are based on real life examples of small to medium businesses and government agencies but are fictionalized to give the reader an opportunity to explore different ideas.

The cases can be used to develop strategic plans for a wide range of enterprises by using the following steps:

- Select a case study as a sample to study and investigate
- Develop a business strategy and a business plan for the selected enterprise
- Establish a technology plan needed for the enterprise
- Investigate and use a computer aided planning tool that can help you with developing these plans (you can use SPACE at www.space4ict.com as a starting point)
- Do a self assessment of the plans developed by you versus the tool

3.2 Major Sources for Case Studies and Examples

3.2.1 An Annotated View of Major Case Study Sources

Many sources of relevant case studies are regularly published over the Internet. Here is an annotated short list of highly useful sources:

- *Harvard Business Review (HBR) Case Studies (*www.hbr.org/case-studies): These case studies, available for a small price from, are considered classics in the field. Although the focus of these case studies is business, however they cover technologies very nicely. The HBR web site has a very nice search capability that fetches case studies for technologies in different sectors such as healthcare, transportation, retail, etc. Student rates and free versions of older case studies are available.
- *MIT Sloan Management Review (SMR) Case Studies* (http://sloanreview.mit.edu/case-study/: These case studies have more focus on digital technologies and digital enterprises than the Harvard Case Studies. Recent issues focus heavily on the impact of Data Analytics, IoTs, and AI (Artificial Intelligence) on modern organizations. The SMR web site has a very powerful search capability for access to different case studies on different topics.
- *Managing the Digital Enterprise Site (*www.digitalenterprise.org): This site is based on a course on digital enterprises at North Carolina State University by Prof Michael Rappa. The site is well maintained and kept up to date. The best part of the site is the Cases Section that shows great case studies of over 20 companies for different topics such as business models, digital design, and digital marketing.
- *Company Analysis by Panmore, Inc*. (www.panmore.com): The focus of this site is on analyzing Business Potential and Performance based on different models including Porter Five Forces, SWOT, etc. The basic premise of this site is to go beyond financial statements and determine business soundness by using measures such as Mission and Vision Statements, Growth Strategies, Organizational Structure and Culture, SWOT Analysis, Five Forces Analysis (Porter's Model), etc. The site shows very nice analysis of several organizations such as Apple, IBM, Dell, Microsoft, Starbucks and many others based on these measures. This information is very useful for student projects.
- *CIO Magazine* (http://www.cio.com/ and http://www.cio.com/magazine). Covers topics and case studies of interest to Chief Information Officers. Very nice free archivals of 2015 and older articles, with many useful case studies.
- *CIO Insight Magazine* (http://www.cioinsight.com/). Has a very nice case studies section. Other sections include IT News & Trends, IT Strategy, IT Management, Security, Blogs. Slideshows, Recent Case Studies, Research, books for CIOs, etc.
- *United Nations Public Administration Network (UNPAN)* website (www.unpan.org). is a very rich resource for e-government case studies and examples in all parts of the World. In addition, the site contains eGovt Standards and Codes, E-Learning Resources, News Items, Library of Books and Articles, and Directories for further information. The case studies section (https://publicadministration.un.org/en/casestudies2) has a very large collection of eGovt case studies on different topics from different countries and is highly recommended.
- *Smart Manufacturing Case Studies and Industry4.0 Hub* (http://smart-manufacturing-hub.com/category/casestudies/). This site has many case studies and examples of smart manufacturing and Industry4.0. Some of the case studies are advertisements for the companies but the information provided is quite useful.
- *Computerworld* (www.Computerworld.com). Mostly devoted to IT infrastructure with main sections on Browsers, Cloud Computing, Computer Hardware, Consumerization of IT, Data

Centers, Emerging Technology, IT Leadership, Internet, Mobile, Networking, Operating Systems, Security, Software, and Vertical Industries.

- *Information Week* (http://www.informationweek.com). This magazine has very good informaton about the IT infrastructure and digital technologies such as networks, big data, cloud, security, etc.
- *eWeek Magazine* (www.eweek.com). This is very magazine is very similar to Information Week and covers similar topics but with more emphasis on vendor announcements and commercial product analysis such as who are the best cloud services providers.
- *Inforworld Magazine* (http://www.infoworld.com/) is also similar to eWeek and Information Week. There is an interesting section on Deep Dive that take a detailed look at current topic areas (e.g., good articles on DevOps).
- Business Case Studies (http://businesscasestudies.co.uk/). These are basically business case studies about business aspects such as externals, finance, marketing, operations, people, and strategy.
- Stanford Business School Cases (www.laaf.org/case-library/). These Case Studies are based on the work by Stanford Business School on philanthropy and charity.

3.2.2 Additional Case Study Sources

Additional examples, of possible value to the reader are the following links (some of these links have been suggested by my students at Harrisburg University of Science and Technology):

- Mckinsey's Digital Enterprises (http://www.mckinsey.com/business-functions/digital-mckinsey/our-insights/the-digital-enterprise)
- BMC Software's Digital Enterprise Management (http://documents.bmc.com/products/documents/38/68/483868/483868.pdf)
- Video clip on Managing IT for the Digital Enterprises, BMC Software: (https://www.youtube.com/watch?v=nI8Yk_vApIk)
- Video clip on Future Supermarket -- Drive Through Shopping (https://www.youtube.com/watch?v=4gy44ax2Ylg)
- Video clip on Managing Information across the Digital Manufacturing Enterprise (https://www.youtube.com/watch?v=0sqnN42nsco)
- Tech Mahendra as Enterprise of the Future (http://www.techmahindra.com/services/Enterprises-of-Future/CRM-Sales-force/SuccessStories-CaseStudies/global-CRM-roll-out-for-Large-Conglomerate.aspx)

Many case studies, examples, and video clips are being published on the Internet on a regular basis. The aforementioned links are only a few examples. The reader is strongly encouraged to do searches on keywords such as "Enterprises of the Future", "Next Generation Enterprises", "Managing Digital Enterprises", and the like.

3.3 Short Samples

This section presents short case studies and sample projects that are intended for individual investigations, classroom projects, and discussions. The topics span retail stores, healthcare centers, emarkets, and digital service centers for health, education, public safety, public welfare, and many other sectors. Several "World Vision" examples are included that concentrate on ICT (Information and Communication Technologies) for developing countries. All these case studies are based on real

life examples of small to medium businesses and government agencies but are fictionalized to give the reader an opportunity to explore different ideas.

3.3.1 Bob's Bicycle Shop

Bob started selling bicycles in Atlanta ten years ago. Five years ago, he acquired a small manufacturing shop so that he could design, build, sell, and repair custom built bicycles. Buoyed by his success, he is now diversifying into a wide range of other products (skis, sports-ware, etc.). He is partnering with retail stores and manufacturers in the southwest to expand his business. His grand vision is to become the sole supplier of sports items in the southwest with several outlets. He wants to be another Nike. The parts and components to support his business will be brought from suppliers located in the Far East and assembled in his manufacturing shop. He believes that a good CRM and supply chain management system are crucial to his success.

Bob so far he has stayed away from technology (other than using the telephone). He keeps track of all information on a MS Word file and also uses an MS Excel spreadsheet occasionally. But his brother in law, Tom (BS-CS, MBA) has been lecturing him on how he could use IS/IT to significantly improve his business. Bob has attended a management seminar and is finally intrigued by information technology and how it can be used for selling, purchasing and outsourcing. His goal is to double his business by using IT in an innovative manner. He also wants to make his operations more efficient and less expensive. He has no idea where to start. He has hired your group to help him out.

3.3.2 Connie's Clothing Store

Connie's Clothing Store is a Denver-based store owned by Connie who has always been interested in fashion. In fact, Connie had worked her way through college by designing, sewing, and selling winter sports clothes to the local ski shops in Denver area. After graduating from college, she started a sports clothing manufacturing and distribution business that is now expanding into retail to reach a larger customer base. Connie wants to expand aggressively in the next 3 years. She currently has 60 employees and is partnering with others to strengthen her business. Her plans are:

- Next year, she wants to acquire a small "manufacturing shop" so that she can design, tailor, sell, and repair custom built clothes at large scale. She also wants to open five outlets in different parts of the country to sell the new clothes. She also expects to double the size of her company within a year.
- In two years, she wants to diversify into a wide range of related products (she wants to be like JC Penny). She is partnering with retail stores and manufacturers in the neighborhood. Some items will be brought in from suppliers located in the Far East. Eventually, she is going to acquire a large chain store with outlets in most cities in the US.

Connie is especially interested in integrating and automating the procurement processes (e-procurement) and supply chains to provide custom-built products quickly. Her goal is to eventually become a major digital corporation that will serve as a store-front for multiple shops so that potential customers order a variety of items through her. The store-front will receive the orders and try to fill them, if it can. Otherwise, it will route the orders to one of its business partners.

The company has not used information technology so far . The only technology used is an Excel spreadsheet that is used to keep track of AR/AP and compute payrolls. Connie knows that IT will play an important role in her growth but does not know how – she is confused. She has hired your group to help her develop an IT strategy (she is really confused!).

3.3.3 Dave's Digital Store (DDS)

Dave has a small business in Chicago. He started selling PCs and electronic equipment in the early 2000s, mainly doing repairs and reselling. He has been doing very well and has opened several stores that are now assembling brand new PCs. Buoyed by his success, he is now diversifying into a wide range of related products (e.g., software, video games, and wireless hardware/software). Dave especially wants to exploit the opportunities in wireless communications. He currently has 100 employees and is partnering with others to strengthen business. His plans are:

- Next year plan is to design, tailor, sell, and repair brand new handsets and other mobile devices at large scale. He expects to triple the size of his company by next year.
- In two years, he wants to diversify into a wide range of related products (e.g., mobile device software, smart phones, business games, and wireless networking hardware/software).
- He is exploring other opportunities to grow his business. He is looking for ideas.

He is partnering with retail stores and manufacturers in the surrounding areas (he wants to stay closer to a retail model -- he wants to be like Staples) and does not want to get into heavy duty manufacturing and wants his partners to do manufacturing. The parts and components will be brought in from suppliers located in the Far East. He also acquired a chain store that sells the custom built devices and computers that are built and repaired at partner sites.

He has so far stayed away from using the technology he sells (other than using the telephone). But he has been attending management seminars on use of IT in business. He does not completely understand it, but he is convinced that it is something beneficial (they would'nt be teaching courses in this area if it was not a valuable topic!). In addition, he is completing his MBA on a part-time basis and cannot wait to put everything he is now learning about business into action. He dreams big. He wants to be like Dell and Compaq. His goal is to eventually become a major digital corporation that will serve as a store front for multiple shops so that potential customers order a variety of products through him. He will receive the orders, and try to fill them, if he can. Otherwise, he will route the orders to one of his business partners.

He has no idea how to get there from here. He wants to be aggressive, yet cautious. Basically, his goal is to double his business in 3 years by using IT in an innovative manner. He also wants to make his operations more efficient and less expensive. He has hired your group to help him out (he is not very bright, after all!). You basically have to show how information systems can be used for this company. This view should emphasize the business aspects and the type of business applications that the company should use, and what specifically will these applications do for the company.

3.3.4 Frank's Furniture Store (FFS)[1]

Frank's Furniture Shop (FFS), Raleigh (NC), is a small store with big ideas**.** Frank started selling kitchen and bedroom furniture 2 years ago and wants to expand aggressively in the next few years. He currently has 30 employees in Raleigh and is partnering with a moving company that delivers the items. His plans are:

[1] This example is based on a real life retail store.

- Next year, he wants to acquire a small manufacturing shop so that he can design, build, sell, and repair custom built furniture. He also wants to open five furniture outlets, in different parts of the country, to sell his furniture. He expects to triple the size of his company by next year.
- In two years, Frank wants to diversify into a wide range of other products (e.g., living room and office furniture, paintings). He also wants to start partnering with retail stores and manufacturers. The parts and components will be brought from suppliers located overseas to his manufacturing site.

Frank is a good businessman but is not very technical. He keeps track of all information on a MS Word file and also uses an MS Excel spreadsheet occasionally. Currently, all communications are through phone but Frank is pursuing an MBA and is really intrigued by using IT for selling, purchasing and outsourcing. He is especially interested in integrating and automating the procurement processes (e-procurement) and supply chains to provide custom-built furniture quickly.

He has no idea what he is getting into. He knows something about IT and business and simply cannot wait to put everything he knows to work. His goal is to eventually become a major virtual corporation that will receive the orders and try to fill them, if possible. Otherwise, he will route the order to one of his business partners. He is fascinated by the idea of exploiting IT to compete in the marketplace. He knows about the failure of Furniture.com (see the sidebar "Case Study: Furniture.com Goes Out of Business") and wants to make sure that he does not follow the same route. He wants to use the Furniture.com model without the problems. He needs help in developing an overall IT plan that includes business processes, applications and the enabling IT infrastructure.

Case Study: Furniture.com Goes Out of Business

Furniture.com was reviewed by CIO Magazine in the article "Furniture.com," Jan. 15, 2000. The company was selling furniture over the Web and promised Web shoppers 24-hour browsing and six- to eight-week delivery times on everything from table lamps to 10-piece bedroom ensembles. The company reported $22 million in net revenues for nine months ending September 2000 and attracted 1 million users a month. But the increase in usage also increased customer dissatisfaction. Customer complaints filed with the Better Business Bureau (BBB) in Worcester, Mass. jumped from one in 1999 to 149 in 2000 (most brick-and-mortar companies get three to four complaints a year). The most common complaints had to do with delivery problems, product quality and bill disputes.

The main problem was that the company management built the "Furniture.com" brand very well but they did not create the infrastructure needed to support it. The company under-estimated the logistics and costs involved in shipping such a bulky commodity cross-country and did not build a good way to track orders -- the company ended up tracking orders manually. Furniture.com also created a cancellation policy that was too expensive. The customers could, for example, cancel orders right until delivery day. Thus when six-week delivery turned into six-month delays, many orders were cancelled. Furniture.com closed down and filed for bankruptcy in November, 2000.

Reference: "The Changing Landscape of e-Business -- The Survivors" by Stephanie Overby, May 1, 2001 Issue of the CIO Magazine.

3.3.5 Mike's Marketplace

Mike, an entrepreneur by nature, wants to start a B2B marketplace (Mike's B2B Market – MBM) for small retailers so that they can buy products from suppliers through MBM. The business proposition is to develop an emarket that the retailers can use to discover, select, and conduct business with suppliers.

The initial idea is that sellers ship the products directly to buyers, but MBM sends a monthly bill to the buyers (similar to a credit card bill) and disperses the money to the sellers. This is supposed to be of great value to the buyers as well as sellers (they deal with MBM instead of multiple orders, bills, invoices, and purchase orders from a multitude of players). Initial focus is on office supply retailers, but other markets can also/instead be served. In addition, MBM may offer more services in the future that go far beyond bill consolidation. MBM is especially interested in supporting all interactions through handsets.

You have been asked to help develop a business strategy and an implementation plan by using a staged approach (start small and simple, become more sophisticated with time). Your task is to help this company start with an initial stage (stage 1) and gradually evolve into stage 3 or 4. You should look at the literature about emarkets, define the stages, and suggest a suitable strategy based on literature survey.

Your main task is to provide a checklist and a conceptual diagram that shows what type of capabilities will be needed by MBM today and within the next 3 years. The company has embarked on a major corporate wide Ecommerce/Ebusiness effort. The company has decided to adopt a staged approach that consists of (he is very organized and details oriented):

Stage 0: Develop a strategy that includes the following information at a high level:

- A 3 year business strategy for MBM (what should it offer to stay competitive).
- About 5 critical business processes (BPs) that are needed for MBM now and the ones that will be needed in the next 3 years based on the proposed business strategy.
- The application packages that will be needed to support the critical BPs. For each application package, show the following information in the form of a table: name of the application, functions performed (about 5) by the application, and at least 3 vendor products that support these applications.
- The IT infrastructure components (computing platforms, databases, networks, web technologies, etc) needed by the company and how they will fit into the architecture.

Stage 1: A Web site that allows external customers to get information about the company products and services and get in touch with appropriate people through email and/or phone. In addition, an internal architecture needs to be established for e-business, so that all sites can conduct business electronically with each other.

Stage 2: An e-commerce site that will allow the users to directly order and purchase the company products and services through the Web site. This implies that the internal flow of information to support online purchases has to be supported. This is intended in the next 6 months.

Stage 3: An "advanced" e-commerce site that allows the company to participate in an electronic marketplace/trading hub. This implies a great deal of B2B activity. This is intended in the next year.

3.3.6 Mary's Medical Center

Dr. Mary started a small medical clinic in New Mexico offering basic family health services. She wants to expand her practice by using information technology very heavily. She wants to run the clinical and business aspects of her clinic by using IT and has asked you to help.

She has asked you to basically develop an IT plan that can be used for external funding and partnerships. You want to understand the overall business healthcare IT and think that a healthcare pattern should help in developing a plan. Your friend has given you a pattern shown in Figure 3-1. It shows the *Business Process Pattern (BPP)* that captures an overall view of a healthcare service provider. Your main job is to use this pattern to develop a complete plan.

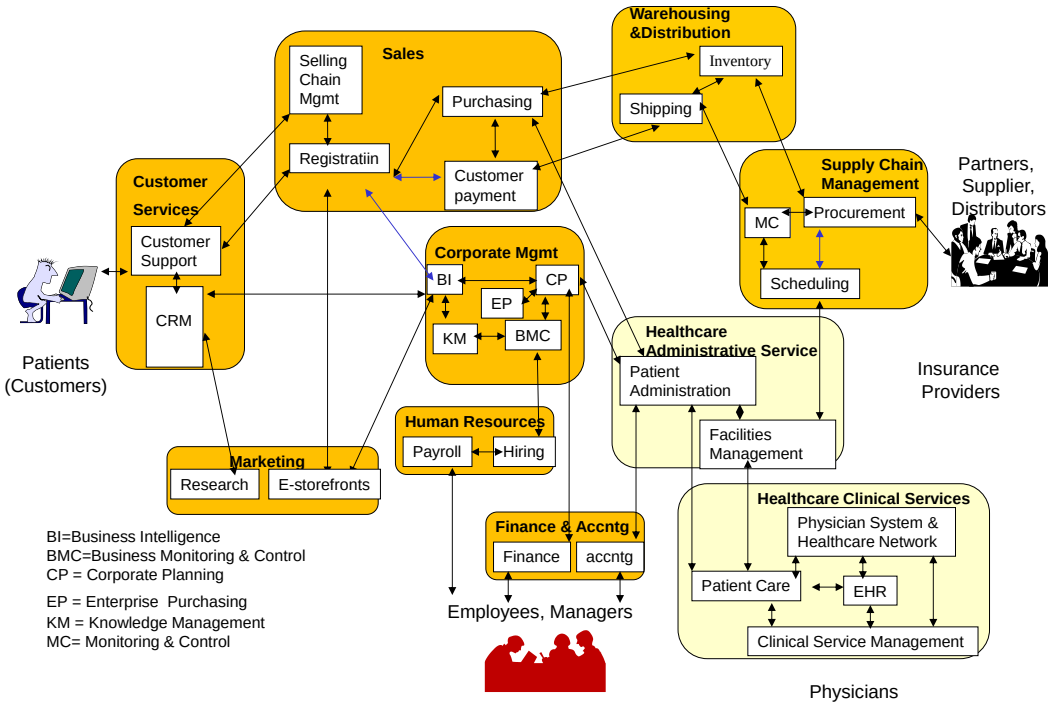

Figure 3-1: Business Process Pattern for a Healthcare Provider

This diagram shows the enterprise functional areas based on HL7 domains (e.g., sales, marketing, corporate management, healthcare clinical services, healthcare administrative services, back-office operations), the major business processes in each functional area (e.g., purchasing and payment within procurement) and the key interactions between these processes shown by arrows in figure 3-1. We will primarily focus on the following service functional areas:

- Healthcare Clinical Services that have been subdivided into patient care, EHRs, physician systems, healthcare management (e.g., health information exchanges, master provider index, master patient index,), and clinical services management (e.g., compliance, patient education, service evaluation and refinement, clinical decision support).
- Healthcare Administrative Services that have been subdivided into patient administration (e.g., admissions, discharges, payment, health insurance, etc), and facilities management (e.g., cleaning, equipment management, record keeping, staff supervision, etc).

3.3.7 Uber Model (Success and Failure)

Uber, as most of us know, is a phenomenally popular taxi hailing app that connects drivers with customers. The customers just press a button and a taxi arrives. Then by pressing another button, all the payment processing are complete. It is that simple. The following blog https://jungleworks.com/download/uberforx.pdf?utm_source=Autoresponder_Ebook&utm_medium=Email&utm_campaign=UberforX.pdf gives a short but very nice analysis of Uber and how the Uber concept of matching consumers with suppliers has triggered a huge demand for an Uber like application in many other sectors such as health, home services, food and dining, care services, delivery and travel, software contractors, lifestyle, education, sports, restaurants and night life.

Many startups are attempting to market "Uber for X" applications, where X can be virtually any sector. Many of these startups are being supported by Venture Capitalists. "Uber for X", or just "UberX", model basically generates/aggregates demand on mobile devices which is then fulfilled by offline service providers. It basically makes it easier for the customers to get in touch with the suppliers. UberX is essentially a matchmaking app that matches the demand with excess capacity.

Although many successful entrepreneurs have been inspired by the UberX model but there have been many failures. The main reason is that Uberx does not work for every situation and blind "uberization" leads to failures. The blog uses the following framework to assess the success potential of uberization:

- the ability to standardize the content (too many services by one app is usually not good)
- the ability to automating the pricing and other business transactions (for example, you cannot automate the taste of food delivered by a third party)
- the ability to provide a speedy delivery of service (especially in a highly competitive environment)

Many uberized services, when assessed using the above criteria, do not succeed. The blog https://jungleworks.com/11-uber-for-x-startups-that-failed-are-you-making-the-same-mistakes/ listed eleven On-Demand 'Uber for X' startups that failed. Here are few examples (please see the original blog for more examples and details).

EXAMPLE1: Homejoy. This was a home-cleaning marketplace company that provided cleaning services by using independent contractors. They had the following problems:

- Homejoy relied heavily on special deals to gain new customers but very few customers made another booking after the initial offering.
- The company expanded too quickly (opened in 30 cities in six months) --- the expansion was too costly and hard to support.
- The company could not train the independent contractors on how to clean a house.

The result is that Homejoy went out of business.

EXAMPL2: Exec. This company provided errand runners to do any kind of random jobs. They had the following problems:

- The company had to hire errand runners for a wide variety of skills (from cooks to software engineers to fix software bugs) – a costly and virtually impossible undertaking.
- Paying for mistakes by the workers and customer refunds turned out to be too expensive.

Result is that the company was acquired by HandyBook in Jan 2014.

EXAMPLE3: Rivet & Sway: This company provided eyeglasses for stylish and fashionable women. The company had the following problems:

- Customer acquisition costs were too high because it was too expensive to ship frames back and forth for the customers to try on.
- The company faced serious competition from heavily-funded companies such as Warby Parker.

The result is that the company went out of business.

3.3.8 World Vision: ICT for Small Islands and Developing States

ICT (Information and Communication Technologies) can be highly effective to vitalize almost 3.5 Billion people who live in Small Islands and Developing States (SIDS). A United Nations Partnership, called ICT4SIDS developed an overall vision that concentrates on a set of high impact but low cost eservices to improve residents' lives. The Partnership Website at www.ict4sids.com provides many case-studies, examples and working prototypes of solutions in health, education, public safety, public welfare, utilities, tourism and other vital sectors.

The ICT4SIDS Partnership encourages graduate students and entrepreneurs from any part of the world to launch pilot projects in islands such as Samoa, Timor-Leste, Papua New-Guinea, Grenada, Palau, Zanzibar, Malta, etc. and also many least developed countries in Africa. Interested individuals can use the www.ict4sids.com site to launch Free Pilot Projects (visit the "Getting Started" section of the website for additional information).

The overall tasks involved in a Pilot Project are:

- Select an island/small city from any part of the world
- Propose a Smart Center (Smart Hub) that will be of great value to the population
- Develop sketch of a business architecture (BA) and application architecture (AA) of the Center
- Develop an IT plan that supports the business and application architectures
- A team may select division of a large company in a developing country as a focal point of the pilot project.

A Smart Center (Smart Hub) provides a set of *integrated* high impact services in health, education, public safety, public welfare or any other vital sector. Examples of such hubs are (see www.ict4sids.com, Learning Corner for more details):

- A Telemedicine center to provide healthcare services to remotely located populations
- A B2B Marketplace (such as eBay or Ali Baba) that allows the users to buy and sell items
- A Disaster Management Center that provides help to victims of disasters
- An e-Agriculture Center that provides guidance in food and agriculture area
- A Tourism Center that helps tourists to find tours, buy tickets, and get additional help
- A Strategic Intelligence Center for a small island that correlates the information from different Big Data sources
- A G2G (govt to govt) Center that exchanges information between various government agencies (e.g., JNET in Pennsylvania that exchanges information between Department of Justice, Police and other Law Enforcement Agencies)
- An Anti-Corruption Center that provides training and informational services to fight corruption
- A Financial Services Center that provides loans and other financial services

- A digital community center that provides a collection of services (e.g., adult education, e-agriculture, basic health, etc)
- Any other centers that you can envision (please suggest some)

3.3.9 World Vision: ICT4Rural Project

Many rural areas, especially in developing countries have unique problems in using ICT (Information and Communication Technologies) for health, education, public safety, and public welfare. The main problems are:

- Lack of electric power; thus, alternate sources such as Solar Power systems are typically used
- Lack of communications (i.e., connectivity to the Internet), especially broadband communications
- Government regulations, in some countries, that prohibit the use of satellites in remote areas
- Financial restriction (e.g., poor populations that cannot afford smart phones and expensive communication capabilities)
- Lack of education; thus, the end users need help in understanding the basic information

Here are some additional information items:

- Many governments do not allow use of satellites in rural areas from private organizations. In Pakistan, uplinks to satellites are not allowed, but downlinks are ok. Only Pakistan government licensed ISPs have uplink permission to satellites. As another case, in Cambodia absolutely NO uplink or downlink is permitted. We may need to consider this in our pilots for rural areas.
- Less than 10% of the rural populations in developing countries have smart phones. So a rural hub should provide a bunch of smart phones where the users can run the mobile apps.
- Most rural apps use text messaging on simple wireless phones. A company such as Frontline SMS may be a good partner for us.

Many creative ideas of providing internet access to remote areas are being used at present. See, for example, the "internet on a bike" article. It describes, how in Bangladesh, some young women carry a laptop and wireless modem on "internet enabled bikes" -- they take their laptops to remote places so that families in villages can have skype chats with their other family members overseas. See the article "Internet on Bicycle" -- http://www.thehindu.com/news/international/internet-rolls-into-bangladesh-villages-on-a-bicycle/article4057457.ece

3.3.10 World Vision: Digital Innovation for United Nations Sustainable Development Goals (SDGs)

The United Nations SDG (Sustainable Development Goals) is a very large scale (involving all 193 countries in the World) and long range (target: year 2030) initiative. The focus of the SDG Agenda -- launched in 2015 -- is on poverty, hunger, health, education, gender equality, energy, economic growth, and other vital issues. Exhibit1 shows the 17 Sustainable Development Goals (see [1] for additional details).

The role of digital innovations for rapid advancement of the UN SDG Agenda has been recognized from the very beginning of the SDG Initiative. Many projects focusing on different SDGs have been launched in 2015 and 2016. Specifically, the two reports (Columbia University and Ericsson Report on ICT4SDGs [2] and the ITU and Cisco Report on IoT4D [3]) have identified several specific

projects that rely on digital technologies. These, and many other projects, are excellent topics for strategic planning, engineering, and management of digital enterprises and services.

Major References on SDGs and the Role of Digital Innovations on SDGs:

[1] **United Nations SDG Main Site**: This is the main site for the 2030 Agenda for Sustainable Development and the Sustainable Development Goals, URL: http://www.un.org/sustainabledevelopment/sustainable-development-goals/

[2]UN Fast Forward Report on ICT4SDGs – July 17, 2017. Weblink: http://www.itu.int/en/sustainable-world/Documents/Fast-forward_progress_report_414709%20FINAL.pdf

[3] UN ESCAP (Economic and Social Commission for Asia and the Pacific), Weblink: www.unescap.org, Report on "Integrated Approaches for Sustainable Development Goals Planning: The Case of Goal 6 on Water and Sanitation", May 17, 2017, weblink: http://www.unescap.org/publications/integrated-approaches-sustainable-development-goals-planning-case-goal-6-water-and

[4] **Columbia University and Ericsson Report on ICT4SDGs:** Sustainable Development Solutions Network, "ICT and SDGs: How Information and Communications Technology Can Accelerate Action on the Sustainable Development Goals", May 11, 2016, Link: www.unsdsn.org/resources/publications/ict-and-sdgs/

[5] **ITU and Cisco Report on IoT4D:** "Harnessing the Internet of Things for Global Development", (https://www.itu.int/en/action/broadband/Documents/Harnessing-IoT-Global-Development.pdf), Jan 19, 2016.

Exhibit 1: United Nations Sustainable Development Goals (2030 Agenda) – see [1] for more Details

1. End poverty in all its forms everywhere
2. End hunger, achieve food security and improved nutrition and promote sustainable agriculture
3. Ensure healthy lives and promote well-being for all
4. Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all
5. Achieve gender equality and empower all women and girls
6. Ensure availability and sustainable management of water and sanitation for all
7. Ensure access to affordable, reliable, sustainable, and modern energy for all

8. Promote inclusive and sustainable economic growth, productive employment , and decent work for all
9. Build resilient infrastructure, promote inclusive and sustainable industrialization, and foster innovation
10. Reduce inequality within and among countries
11. Make cities and human settlements inclusive, safe, resilient, and sustainable
12. Ensure sustainable consumption and production patterns
13. Take urgent action to combat climate change and its impacts
14. Conserve and sustainably use the oceans, seas and marine resources for sustainable development
15. Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt & reverse land degradation and biodiversity loss
16. Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels
17. Strengthen the means of implementation and revitalize the global partnership for sustainable development

3.4 eGovernment Case Studies

Besides the United Nations Public Administration Network (UNPAN) website at www.unpan.org and the associated case studies section (https://publicadministration.un.org/en/casestudies2) mentioned previously, there are several other excellent sources of case studies and examples. Here is a short list of sources:

- **eGovernment4Development Case Studies** (http://www.egov4dev.org/success/case/). This website has many examples of eGovernment case studies of possible interest. Here is a short sample (more on the website):

  1. Village Information Kiosks for the Warana Cooperatives in India *Competition Winner*
  2. Supporting Democracy with ICTs: South Africa's Independent Electoral Commission
  3. Problems for a Natural Resource Ministry's Scientific Information System
  4. First Steps in Implementation of Pakistan's National Database & Registration Authority
  5. Using Information Systems to Support a Social Investment Fund in South America
  6. Automating a Social Security and National Insurance Trust in West Africa
  7. Turkey's Local Government Portal, YerelNet
  8. A Management Information System and GIS to Support Local Government in Balochistan
  9. The Cameroon Government Web Portal
  10. Starting Up the Cameroon Department of Tax's Web Site
  11. Durban Council's Community Information Link *Competition Winner*
  12. eProcurement by Brazil's Federal Government
  13. Integrated Information System for Trade at Douala Autonomous Port
  14. eProcurement by Mexico's Federal Government

15. Planning Web-Enabled Services for Citizens in Orissa
16. Electronic Birth Registration in Rajshahi, Bangladesh *Competition Winner*
17. Front-End First: Citizen Payment at FRIENDS Centres in Kerala *Competition Winner*
18. Pension Payment and Contribution Collection System in the Former USSR
19. eShringhla: An Information Kiosk Scheme in South India
20. A Land Licensing and Planning System for Beira City, Mozambique *Competition Winner*
21. SETU: A Citizen Facilitation Centre in India
22. Failed Electronic Voter Registration in Uganda *Competition Winner*
23. Problems in Computerising the Ministry of Foreign Affairs *Competition Winner*
24. The National Data Bank Project: An Expensive Lesson for Bangladesh
25. Challenges to Management Information Systems in Nigerian Universities
26. (Not) Providing Computers for all South African Civil Servants

- **UN Fast Forward Report on ICT4SDGs (July 17, 2017)** has a large number of case studies and examples of how ICT can be used to support specific SDGs (Sustainable Development Goals). Weblink: http://www.itu.int/en/sustainable-world/Documents/Fast-forward_progress_report_414709%20FINAL.pdf
- **UN ESCAP (Economic and Social Commission for Asia and the Pacific),** Weblink: www.unescap.org, Report on "Integrated Approaches for Sustainable Development Goals Planning: The Case of Goal 6 on Water and Sanitation", May 17, 2017, has very interesting examples of integrated planning for water distribution systems in Asia. weblink: http://www.unescap.org/publications/integrated-approaches-sustainable-development-goals-planning-case-goal-6-water-and
- **Columbia University and Ericsson Report on ICT4SDGs:** Sustainable Development Solutions Network, "ICT and SDGs: How Information and Communications Technology Can Accelerate Action on the Sustainable Development Goals", May 11, 2016, Link: www.unsdsn.org/resources/publications/ict-and-sdgs/
- **ITU and Cisco Report on IoT4D:** "Harnessing the Internet of Things for Global Development", (https://www.itu.int/en/action/broadband/Documents/Harnessing-IoT-Global-Development.pdf), Jan 19, 2016.

3.5 Case Studies In Strategic Planning (Short Snippets)

Note: These are short snippets about different examples of strategic planning to give a general idea about the strategic planning practices.

Relationship Between Strategic Planning and Project Management. This case study shows how Project Management helped a company in transition from strategy development to strategy execution by using Project Management techniques. Many companies develop good strategic plans but do not know how to translate them to URL: http://pm-alliance.com/project-management-services/project-management-consulting/strategic-planning-case-study/

Tobin, S.R. (1995): The strategic planning process: a case study of a non profit organization, This is a very interesting MS Thesis at the University of Rhode Island. It can be used as an example by graduate students interested in strategic planning. URL: http://digitalcommons.uri.edu/cgi/viewcontent.cgi?article=1423&context=theses

Strategic Planning Case Study: Cisco's Internet Scenarios to 2025. This is a good example of strategic planning. Cisco and Monitor Global Business Network asked a question "What will the

Internet Look Like in year 2025". To further answer this question, they developed different scenarios that answered important questions about the future of the Internet. Some plans for the different scenarios were developed. Although nobody really knows what the Internet will look like in 2025, the approach followed is interesting. URL: *http://blogs.cisco.com/emerging/the-evolving-internet*

Case Study: Strategic Plan Development & Implementation This Case Study describes how a consulting firm helped in the development and implementation of this client's first, comprehensive strategic plan. Although this case study is basically a commercial for the consulting firm, the approach used is interesting. (URL: http://thinkgagnonassociates.com/case-studies/orvis-company**.**

Ward, GL (2001): CASE STUDY: Strategic Planning at the General Accounting Office (GAO). This well written case study captures key lessons and provides some insights into the planning processes at GAO. **T**he U.S. General Accounting Office developed a strategic plan to guide its efforts and address the major changes in the office. The two-year strategic planning process resulted in a complete reorganization of GAO. URL: www.gao.gov/special.pubs/ward.pdf

Gallagher, C. (2001), "Strategic Planning for Oregon Crime Victim Services Needs Assessment" Project. This case study basically is a competitive "request for proposal" for the "Oregon Crime Victim Services" project that was published by the Oregon Department of Justice in 2001. It is an interesting description of what a government agency expects a strategic plan to produce. URL: www.navaa.org/sp/**case**%20study-oregonjuly082.doc.

A Case Study of Strategic Planning Failure (around 2010): A large healthcare provider in a large metropolitan area specialized in providing free care to Holocaust survivors. This is a very well funded organization but the patients were passing on. The company organized an internal strategic planning effort to determine what to do with the rapidly declining patient population. However, the planning process was not well managed. The planning meetings became gripe sessions and created distrust among employees. Due to this, the company ran into serious problems and finally cancelled the strategic planning process. Outside consultants were invited later to develop a formal planning process with much better results (Note: This is based on personal experience).

Strategic Planning Case Study Sources:

- Butuner, H. (2016), Case Studies in Strategic Planning, Aurbauch, https://www.amazon.com/Studies-Strategic-Planning-Hakan-Butuner/.../1498751229
- Dhillon, G.S., (2014) Strategic Information Systems Planning: Readings and Cases, Semantic Books