Strategic Planning and the Use of Futuring Tools

by

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Abstract

This paper offers an analysis and synthesis of the planning process along with futuring tools involved in the development of future planning in educational and corporate organizations. Examples of sample reports from organizations which have utilized the futuring methods and tools are included. A final integrated section on the methods, tools and its relation to each other accompanied by a schematic diagram along with other important factors such as team management and planning will be discussed.

Table of Contents

List of Tables and Figures

Tables

Figures

Introduction

This paper will focus on how the synthesis of strategic planning process and analysis of various futuring tools in educational institutions or organizations can be used as a forecast element. Sample collection of reports used during the process will be used in the discussion. A final discussion along with a schematic diagram illustrating how the various methods and tools are integrated along with team management can be used for strategic future planning in organizations.

The Process

The strategic planning process includes the following (a) study of emerging issues and trends, (b) environmental scanning, and (c) four examples of futuring tools. The four futuring tools used in different situations consist of a (a) trend extrapolation method, (b) Delphi study technique, (c) scenario planning and (d) the futuring tree. Case examples and methodologies from the Digital Communication Department (DCD), under the umbrella of Houston Community College (HCC) System as well as HCC reports will be used as study samples for the analysis and conclusion.

A Case Example of Emerging Issues and Trends at DCD

Rapid changes and development of technology today affects the planning process of most corporations and education institutions. The area of focus selected for this is the issue or process of onsite courses slowing transiting to hybrid or fully online classes. The department offers Associate Degrees and Certificates from 4 major program areas: Multimedia, Print, Web, and Technical Writing. Currently we have only about 4 courses that are offered online. This is observed as a temporary basis. The department is competing with many other accredited nation wide Visual Arts colleges and universities offering full time degrees. For example, the American

International University, a 4 year accredited institution which offers degrees in Visual Communication and Graphic and design courses; Art Institute Online, a 2-year accredited college offering Web, Print and Multimedia certificate and Associates Degree plans; and Savanna College of Art & Design which offers Certificates up to Master level Art, Design and Multimedia courses. DCD will have to increase their offerings for online learning as additional option for learning styles. Enrollment statistics have been dropping over the past 3 years. With the rapid growth of technology, and the marketing strategies and push from the above stated colleges and universities, DCD's and the possibility of future students may turn to online options in furthering their studies.

Additional studies from the National Center for Education Statistics have shown growth in Distance Learning. NCES (2005) stats that, "The number of course enrollments in distance education nearly doubled between 1997–98 and 2000–01; by 2000–01, about half of these enrollments were at public 2-year institutions" (p.2). Also, statistics within the Houston Community College system also indicates a steady growth in DE enrollment and courses (HCCS, nd.)

DCD is aware of the competition and learning styles, and now has taken initial steps to evaluate what can be done in the area of online learning for their program. The trend will grow from onsite to hybrid and eventually fully online degree plans.

Report Sample of an Environmental Scanning Process

The selected environment completed by a dyad team was on Houston Community College System (HCCS), one of the largest community colleges is the nation with 1.3 million students (The Chronicle of Higher Education, 2004; HCCS, 2005 p.7). The mission statement for the College is as follows, "The Houston Community College System is an open-admission,

public institution of higher education offering opportunities for academic advancement, workforce training, career development, and lifelong learning that prepare individuals in our diverse communities for life and work in a global and technological society" (HCCS, n.d. p.5) One of HCCS' major goals of ensuring student success is to implement, (1) a quality learning college environment through quality staff training and professional development, and (2) improve reliability of technology infrastructure to better serve HCCS learning environment. During a 2003 bond election under the Capital Improvement Plan, the HCCS board of Directors has approved a $169 million plan for new educational facilities (HCCS, 2005).

The leadership at HCCS is aware of technology being one of the emerging concerns. Currently, besides physical constructions on expansion that are going on in various campuses, technical training programs has also been set up to ensure that staff and administration get in house professional training. In addition, about two years ago, a faculty development program called, Faculty Certification in Technology was set up to help instructors integrate technology into curriculum. The training besides learning development of instructional technology in web and multimedia, also offers pedagogy classes how to work with students in online with new teaching techniques, ethical consideration and accessibility issues, thus building a quality and productive learning environment.

Vignette in the Future – Motivated to learn

Customizing and expanding learning opportunities is definitely one of HCCS' goals. The current involvement in the area of faculty development where administration and faculty are now motivated and coming up with innovative ideas while learning how to learn relates close to the vignette, "motivated to learn" discussed in the NCREL article. Customized learning is in its infancy stage particularly in both hybrid and online environment. The Southern Regional

Education Board stated the following in their recent fact book June 2005 report, “Population changes and growth make progress in education harder in many states. Overall progress in education could come to an historically unprecedented halt, if the fastest-growing racial/ethnic groups remain at their current education levels” (p.2). What remains unclear is how customize learning work in HCCS would effectively with its current 1.3 million diverse learners (age and ethnic groups) and as student population continues to grow.

Next, the question stated by NCREL (n.d.), “If more customized approaches to individual learning are adopted, how can achievement be measured in the absence of standardized instruction?” is also another concern in the current traditional setting of instructors at HCCS. A majority of HCCS instructors have a background in the standardized, instructor-led teaching methods. For example, if students were given the role of leading the class during team based learning, while the instructor facilitates the teaching environment, how can instructors measure student progress without standardized assessments?

Provocative Ideas

The following sections of discussions offer provocative ideas that are related to the customization and expansion of learning opportunities. Three topics have been selected for discussion.

Learning Styles & Teaching Strategies . Standardize tests and exams today is not enough to measure students’ skills and competencies in the area of critical think. It also inhibits instructors from finding innovative ways for improving teaching strategies. Customized teaching styles are now focused on problem based learning, hands on application which encourages motivational thinking (Wagner, 2001).

With new technology development, new multimedia authoring tools are capable of developing learning activities that can motivate learning. For example, gaming is popular among the younger generation in today's digital age. Future generation of students' learning style may be game-based learning (Mitchell & Savill-Smith, 2004). A research conducted by Ultralab and the Learning and Skills Development Agency (LSDA) offers pedagogic and technical ideas to instructors interested in computerized and gaming approaches in learning.

Team Base Learning or Cooperative Learning. Wagner states, "Many classes are team-taught. Large- and small-group meetings of faculty members are a time for true collaborative inquiry and problem-solving. Their relentless focus on improving teaching often leads teachers at these schools to reach out to educators from other schools, inviting them in to help assess the quality of student work, teaching, and curriculum. Some also invite business and community leaders in to randomly audit student work and to discuss the skills needed for work and citizenship". Houston Community College's active involvement with the workforce and industry community require that students know how to collaboratively work in teams and be prepared to handle professional challenges. Therefore it is crucial that team based learning be reinforced to help equip students for the workforce.

Besides professional workforce implementations via team work approach, social skills must be also be reinforced. The diverse community of ethnic groups requires that the students know and understand each other's culture. Team or group activities can help students discover problems that may be related to culture or linguistic differences. Knowledge and abilities that are built during team activities can help students accelerate high academic standards in the future of multicultural world (California Department of Education, 2005).

New Information and Communication (ICT) Infrastructures. As Houston Community College continues to implement new innovations, there is a great need for technology investment to a point where it becomes ubiquitous. Goldberg states that, “the only viable way to reach ubiquity in education technology is to free ourselves from wires”. Thought quite a few of the computer labs are now equipped with wireless internet connections, further implementation is needed for all parts of the building for the future. As mobile devices such as handheld Personal Digital Assistant (PDA), cell phones with data storage, and wireless laptops replace text books in a classroom, HCCS must consider a wireless generation. References resources in the form of text, audio, and video will be the “instructors-of-the-future” generation and must be readily be accessible as instructors transit from the traditional onsite teaching methodologies, to hybrid and eventually online,

The Four Futuring Tools

1. Trend Extrapolation

Five baseline trends have been selected as the focus for further studies. Higher education needs to study these trends that can help ensure future planning and success in their organization. They are (1) technology facilities & implementation, (2) professional development (faculty training in technology (3) student satisfaction in the area of learning styles & needs (4) financial planning & hiring practices, and (5) course delivery and curriculum design.

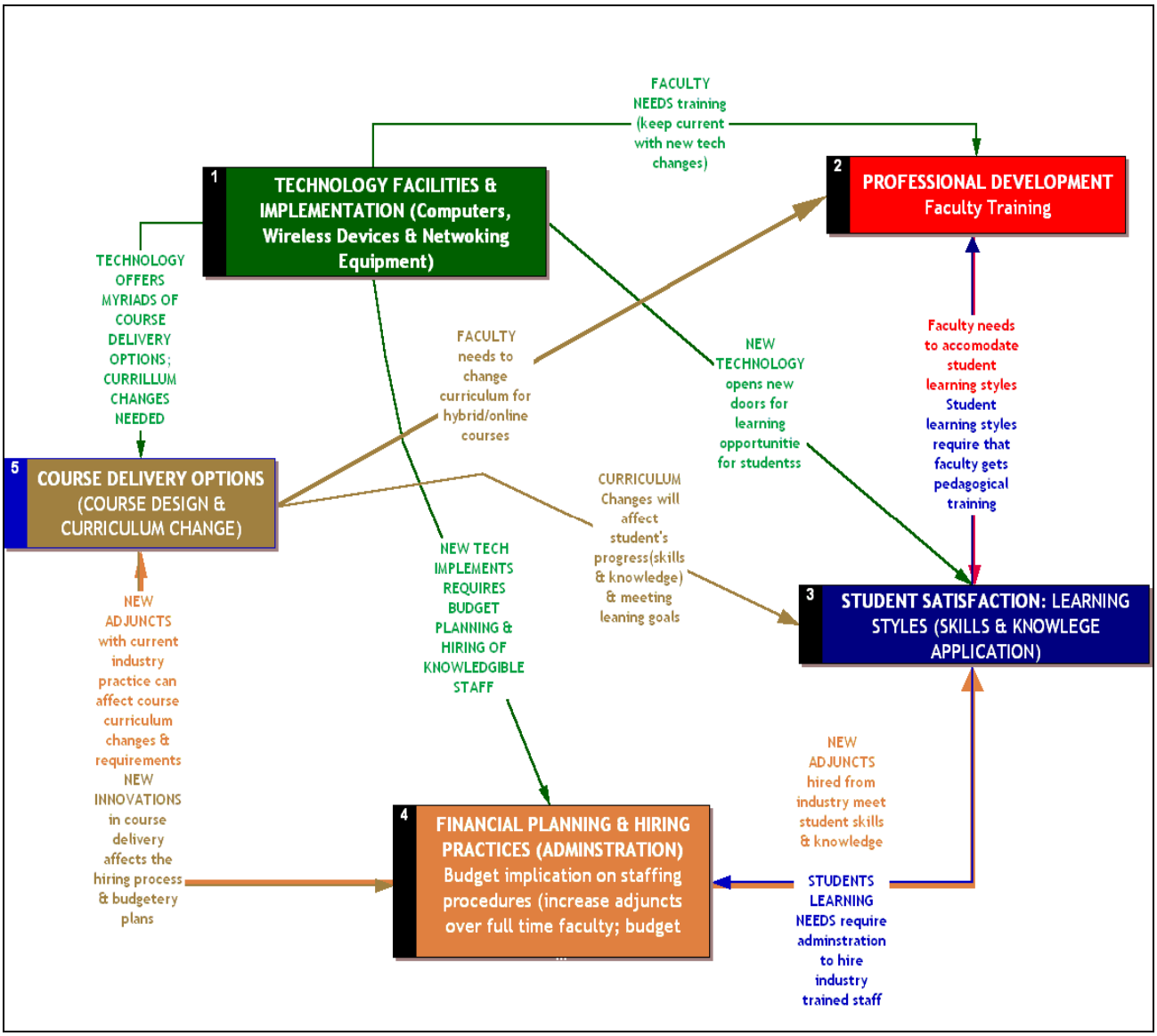
Table 1. Trend map indicating changes Higher Education Institutions due to impact & rapid development in technology

Baseline trends	1970	1980	1990	Current
Trend 1 Technology facilities & implementation	• Technology use only in administrative offices	• Technology use only in administrative offices & libraries (catalog services)	• Technology use in administrative offices, libraries, classroom & homes • Increase of internet use, and networking communications	• Technology use in administrative offices, libraries, classroom & homes • Wireless communication & networking implementations • Internet is part of the normal daily activity for everyone
Trend 2 Professional development: (Faculty training) in technology	• Classroom – traditional based. No need for technology	• Classroom – traditional based. No need for technology • Introduction of word processing programs for paper submissions (home based or libraries)	• Computers available in classrooms for writing papers & research projects • Beginning of online classes – increase growth for hybrid and/or 100% online courses • Need for technical training for traditional faculty	• Computers available in classrooms for teaching and is utilized as tool for learning • Rapid growth for hybrid and/or 100% online courses including high schools with dual credit systems • Need for technical training for traditional faculty including pedagogical focus
Trend 3 Student satisfaction: Student learning styles & needs	• Instructor based learning styles. Learning is controlled by instructor • School Textbooks & learning materials in the form of hard copies.	• Instructor based learning styles. Learning is controlled by instructor • School Textbooks & learning materials in the form of hard copies. • Computer games and gaming devices available in homes for entertainment purposes	• Instructor based learning styles slowly shifting to learner based. Students like the use of the internet and multimedia (computer based learning) technology as of the learning process and learning resources • Lesser use for school textbooks & learning materials in the form of hard copies. Beginning of e-textbooks • Computer games and gaming devices	• Almost every institution have computer equipped classrooms • Faculty are required to implement technology (multimedia, simulations etc) as part of the curriculum and lessons as part of motivating and engaging learners into the knowledge & skills acquisition • e-Textbooks and internet used as a resource for learning • Learners prefer to take online classes because of

			available in homes and schools for entertainment purposes as well as part of motivating learning styles. • Emergence of personalized laptops, digital devices and cell phones	convenience, learn at their own pace, or personal enrichment due to busy schedules (work, need to upgrade skills)
Trend 4 Financial planning & hiring practices	• Most schools have full time faculty. • Few part times instructors	• Most schools have full time faculty. • Few part times instructors	• Increase employment for adjunct or part times instructors • Increase of budgetary concerns for technology equipment investments & repair work	• Increase employment for adjunct or part times instructors knowledgeable in technology skills & issues. Such knowledge can be brought to the classrooms. • Continued increase of budgetary concerns for technology equipment investments, upgrades
Trend 5 Course delivery and curriculum design	• Standardize/traditional curriculum that do not need much change.	• Standardize /traditional curriculum that do not need much change.	• Standardize curriculum need to change frequently due to implementation of technology into lesson plans.	• Continued increase of hybrid to online courses required change in course and curriculum design due technology advancements

Figure1. Trend Map with 5 baseline trends showing the impact (cause & effect relationships) of technology changes in higher education

(Note: The use of colors and arrows indicate how each trend affects the development of other trends. Trend 1 Technology facilities and implementation with the highest score of "out" arrows is the driver that affects and influences the other trends while Trend 3 with the highest "in" arrow is the dependant variable (Alexander & Serfass, 1999)



Trend 1 Technology facilities & implementation

Justification. Technology is transforming colleges and universities in many areas. Reflecting back to a couple of decades ago, there were hardly any computers or digital equipment in the classrooms except for administration offices. Both instructors and students carried textbooks, and binders of notes along with stationery.

Forecast (Cause and Effect). As technology continues to develop at a rapid pace (trend 1), higher education institutions must change the way things are administered especially in the area of teaching in a classroom. The rapid growth of technology is driving the change, (the "cause-and effect" variable) that is needed in higher institutions across the nation.

Faculty need to keep up with technology changes (Trend 1 affects Trend 2). Traditional instructor-led teaching styles must change. Erstad (2003) stated that instructors need to know important elements such as (1) understanding how learners interact with the use of technology as part of their knowledge-building & learning community environment with the instructor as guide or partner, one who helps with problem solving issues, (2) the student taking charge of knowledge, motivated and being the independent learner, or knowledge managers where learning can be meaningful, and (3) opportunities for global linking where students learn about and work with people and culture from all over the world.

Student learning styles changes (Trend 1 affects Trend 3). Most of the students in the classrooms today are techno-savvy with computers at home. Reading and knowledge acquisition takes the form of digital format. Students walk into the classroom with personal laptops and digital devices that connects to the cyber world of knowledge – a reservoir of knowledge resource.

As higher education institutions continue to implement new technology innovations, there is a great need for technology investment in purchasing equipment, upgrades and repairs (budgetary plans needed) to a point (Trend 1 affects Trend 4). (See Figure 1 for cause-and-effect relationship)

Forecast (Projected Changes). 5- 10 years from now, technology equipment in classrooms will have only wireless set ups with open desks or tables. Students will be required to bring personal laptops as textbooks and learning material evolve to digital formats. The implementation of the wireless laptop generation will be great savings for budget conscious educational institutions as well as convenience for faculty and students (Campbell & Pargas, 2003).

Trend 2 Professional development (faculty training in technology)

Justification. The resistant for technology has very much diminished today. Many institutions are offering free, and compensations or paid stipend to be trained in how to incorporate technology into curriculum. There are some places that are providing desktops or laptops for instructors. Not only are they required to know how to utilize technology in their classrooms, they are also required to learn how to deliver them online. Companies like Blackboard and WebCT offer learning management systems to institutions as the platform for course delivery. Trend 1 (Technology change) affects trend 2 (the need for faculty training) to keep up with latest skills that can be utilized in classrooms (See Figure 1 for cause-and-effect relationship).

Forecast (Projected Changes). 5-10 years from now, training will not be needed as much. By then, every faculty would be comfortable with using a computer, have some sort of online

resource for students, and perhaps will be using other forms of digital media to teach or deliver courses.

Trend 3 Student satisfaction in the area of learning styles & needs

Justification. As technology continues to grow as part of students' daily lives, the learning styles will change. Internet resources like the internet, online free learning resources will function as a reservoir of knowledge for training and development. All 4 trends (1-4) play important roles to student learning satisfaction and success (See Figure 1 for cause-and-effect relationship).

Forecast (Projected Changes). Though initial development of these elements has been implemented, these changes will be different in 5-10 years. Classroom will be learner-centered where students will share their knowledge learned with everyone. Knowledge of global and cultural awareness will grow as communication and network devices such as video and web cams will be used as part of the bridging tools that connects learners from all over the world. Instructors will be partners or facilitators.

Trend 4 Financial planning & hiring practices

Justification. In a 2005-2006 budget report by the New York State Public Higher Education Conference Board (2005), it stated the following, "A look at faculty staffing is revealing. Full-time faculty at both SUNY and CUNY declined from 1990-91 to 2003-04 while the number of adjunct faulty grew dramatically. This is happening because of the slippage in state support. As full-time faculty retire and enrollments grow, the college administrations meet their staffing obligations with these limited funds by employing adjuncts who receive less pay and little or no benefits.

- Full-time faculty at CUNY declined from 6,608 to 5,951, a decline 657 faculty or 9.9%

- Full-time at SUNY declined from 15,877 to 14,972, a decline of 905 or 5.7%
- Adjuncts at CUNY grew from 4,906 to 8,219, a 3,313 increase or 67.5%.
- Adjuncts at SUNY grew from 11,508 to 15,486, an increase of 3,978 or 34.5%. ”

In a Washington report on 2-year community colleges in 2000, it was commented that, “there are 3,276 full-time and 9,312 adjuncts, so even if every full-timer were to resign, only a fraction of the adjuncts could be hired as replacements. This numerical bottleneck alone means that the adjuncts’ prospect of becoming full-time is bleak.” Students learning needs in technology (Trend 3) will require that administration hire adjuncts with such knowledge. Administration meeting such needs affects student learning satisfaction. (See Figure 1 for cause-and-effect relationship)

Forecast (Projected Changes). The trend will continue to grow in the next 5-10 years where institutions across the nation with increase adjunct employment over full time position, due to budgetary concerns and constrains for required investments and expenditure in technology. Also increase use for adjuncts with latest development & technology skills, and online teaching. Adjuncts can teach from any location (Trend 5).

Trend 5 Course delivery and curriculum design

Justification. Many institutions have begun taking a serious look at options for online delivery as a medium for program certifications. Distance learning has been around for decades, but it is not till the recent mid 90’s where technology has opened doors utilizing new innovations for online delivery of courses (West, 1999). Studies from the National Center for Education Statistics have shown growth in Distance Learning. NCES stats that, “The number of course enrollments in distance education nearly doubled between 1997–98 and 2000–01; by 2000–01, about half of these enrollments were at public 2-year institutions”. Also, the International Data

Corporation projected that 85% of higher education institutions will offer courses via distance by 2002 (as cited in West).

Trend 5 (online classes require a redesign for course curriculum) affects Trend 2, faculty training in both the area for technology and pedagogy, and Trend 3, student learning and satisfaction as well as Trend 4, budgetary planning (See Figure 1 for cause-and-effect relationship).

Forecast (Projected Changes). 5-10 years from now, the trend for course delivery will grow from onsite to hybrid and eventually fully online degree plans. As stated earlier, part of the faculty technology certifications focus on techniques and pedagogy for online delivery as well. Resource organizations like Merlot, a Multimedia Educational Resource for Learning and Online Teaching offers myriads of free learning objects usable for online courses available in a variety of higher education subjects in the area of arts, business, education, science and technology, math and statistics and social sciences (n.d.). As organizations like Merlot continues to spread rapidly over the web, instructors will have ample resources to select for their online program, thus not having to worry having to spend too much time on preparing lesson materials. They will function as online facilitators and counselors building online communities.

2. Delphi Technique

A Delphi Technique found in Alexander & Serfass' text will be used as the tool for conducting a futuristic study in a selected department from a Community College System. The 5 baseline trends observed during a previous trend extrapolation study included the following, (1) technology facilities & implementation, (2) professional development (faculty training in technology (3) student satisfaction in the area of learning styles & needs (4) financial planning &

hiring practices, and (5) course delivery and curriculum design. The following is a process of the Delphi study conducted.

Team selection. A Delphi study will be conducted in a Digital Communication Department at the Houston Community College System. Digital Communication Department offers certificate and degree programs in Web, Multimedia, Print and Technical Writing. The team ("stakeholders") will consist of the following members, (1) college dean, (2) Instructional Technology (IT) chair, (3) chair of the curriculum development department and (4) department chair for the digital programs.

Identification of main issue. The main issue of focus is to find out how the rapid development in technology will impact future vision plans (based on the 5 selected baseline trends) for the department in the area of Web Development, Multimedia, Print and Technical Writing.

Questionnaire development. A "prioritize" type of questionnaire will be used as the format to get responses on projected future from participants.

Table 2. Sample DCD questionnaire used in Delphi Technique

Criteria	2006	2010	2015	2020	2025 and beyond
1. Certificate programs will be offered on a hybrid basis (onsite & Online)					
Web Development					
Multimedia					
Print					
Technical Writing					
2. Associate programs will be offered on a hybrid basis (onsite & Online)					
Web Development					
Multimedia					

Print					
Technical Writing					
3. Certificate programs which will be offered 100% online					
Web Development					
Multimedia					
Print					
Technical Writing					
4. Associates Degree programs which will be offered 100% online					
Web Development					
Multimedia					
Print					
Technical Writing					
5. College will no longer hire full time faculty, but comprise of fully adjunct instructors					
6. Desktop computers become obsolete. (Students will be required to bring in personal laptops)					
7. Department becomes fully wireless					
8. Course materials (tutorials, hands on practice drills) will comprise of e-media selection					
9. Need to implement a gaming curriculum (incorporation of more programming type courses in conjunction with multimedia applications)					

Panel of experts. The questionnaires will be distributed as an online survey to 100 members of the Association for Computing Machinery who are computer and information technology specialists, and 100 members from the Educause.edu, a non profit organization specializing in serving higher education by offering information related to educational trends in the development of information technology. These panels of experts represent educators and

professionals in the field of web and multimedia development. Being involved in such related areas they will be able to contribute their opinions without having any underlying organizational ties to the department. They also represent “a diverse population with respect to background, experience, expertise, and location” (McNeil, n.d.).

First round survey and tally. The first round survey will contain instructions about the survey. The survey will be anonymous. Responses will be collected, tallied and represented in a graphical chart.

Second and third round survey and tally. After a study of the survey results completed for each round, questionnaires will be revised with tallied scores returned to the panels of experts. The purpose of the iteration process is to allow the respondents to revise views and reach a consensus about the situation (McNeil, n.d.)

Interpretation the results. Collected results consisting of opinions and visions from the variety group of specialized experts can function as a set of important data for future planning in the Digital Communication Department.

3. A 7 Step Scenario Planning Process

Team selection. A scenario study plan will be conducted in a Digital Communication Department (DCD) at the Houston Community College System. DCD currently offers onsite certificate and degree programs in Web, Multimedia, Print and Technical Writing. The team (“stakeholders”) will consist of the following members (1) department chair, and (2) 4 full time faculty members representing each program area.

Identification of the Main Issue to resolve (Issue identification). Should Digital Communication Department offer full online certificate and degreed programs to their students as an optional choice of course delivery?

Questions for the issue

1. Are instructors ready and committed for the implementation?
2. Are there resources (course content, expertise, training, funding, time and technical and leadership support) to help instructors design and implement courses?
3. What is the market for future online students?
4. Is there going to be a marketing strategy to promote the online classes?
5. What is going to happen to onsite courses and instructors?

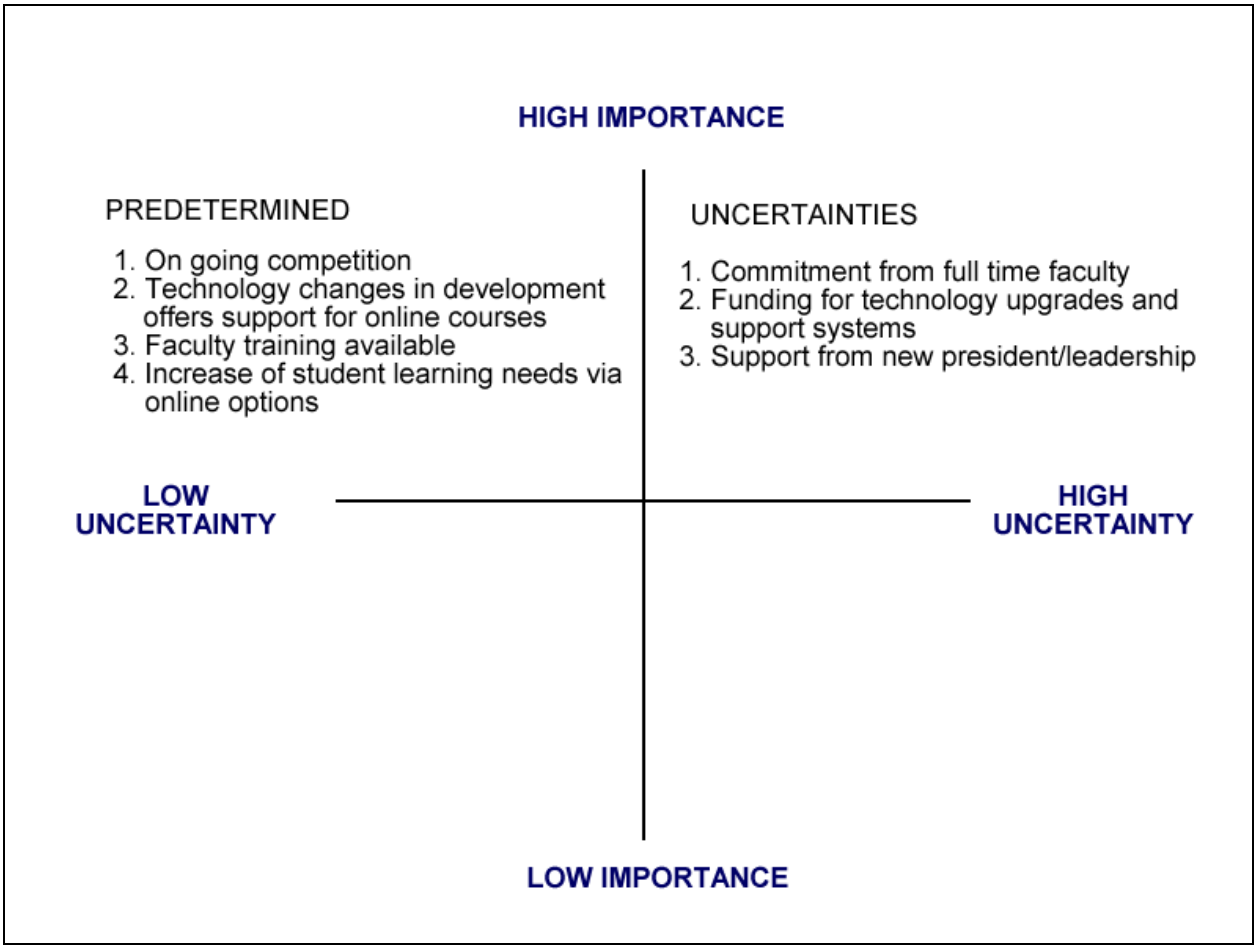
Key factors in the environment. Question to be asked: What are the major factors we need to know about DCD's future environment in order to offer full online certificate and degreed programs to their students as an optional choice of course delivery?

1. Political – Current president is very supportive with the vision of DCD, but will be replaced with new president. Will the future president be as supportive in DCD's activities?
2. Social – Students have busy lifestyles due to job and family demands. Will online courses offer convenience of furthering their education, therefore meeting students' needs?
3. Economic – There is a major competition with other private schools increasing of online courses similar to DCD. Can DCD meet up to the challenges of the competition? Will DCD get support for funding due to ongoing budget cuts?
4. Technology – Impact and change in technology. Does that mean offering and creating online courses should be easier? Faculty Training is available & supported by the

Distance Education Department and Instructional Computing Resource Labs. Are instructors ready to tap recourses for technology training?

Rank key factors. Based on team decision on how the factors exert influence on DCD, a diagram has been charted (See Figure 2).

Figure 2: Quadrant Diagram showing DCD's predetermined and uncertain factors (Implementation for Online Certificate & Degree Programs)



Determine axes of uncertainty. Upon much discussion, the uncertainties were narrowed down to 2 factors, (1) Funding for technology upgrade and support systems and (2) Commitment from full time faculty members.

Table 3: Table showing list of factors to be considered in writing scenarios for the development of full online certificate and degree programs at DCD

Scenario 1: Support all around	**Scenario 2: Full Faculty Commitment with no funding**
Predetermined 1. Competition 2. Technology changes in development offers support 3. Faculty Training available 4. Student Needs	**Predetermined** 1. Competition 2. Technology changes in development offers support 3. Faculty Training available 4. Student Needs
Uncertainties	**Uncertainties**
1. Funding for technology upgrades and support systems available 2. Full Commitment from full time faculty	1. No Funding for technology upgrades and support systems 2. Full Commitment from full time faculty
Scenario 3: Funding without Faculty Commitment	**Scenario 4: No funds, no commitment**
Predetermined 1. Competition 2. Technology changes in development offers support 3. Faculty Training available 4. Student Needs	**Predetermined** 1. Competition 2. Technology changes in development offers support 3. Faculty Training available 4. Student Needs
Uncertainties	**Uncertainties**
1. Funding for technology upgrades and support systems available 2. No Commitment from full time faculty	1. No Funding for technology upgrades and support systems 2. No Commitment from full time faculty

Develop scenarios. The following scenarios are developed and discussed to help analyze the possibilities of each situation.

1. Scenario 1. Support all around (Funding & Faculty Commitment)

   Given a full funding support for technology upgrades and support systems as well as commitment from full time faculty members definitely is a strong incentive for the department. The department must look into continual plans of developing, improving and enriching programs which can meet learners' needs.

2. Scenario 2. Full Faculty Commitment with no funding

   Having full support from faculty is detrimental to the success for the online program. It will help with enrollment of students if a well planned and robust program can meet the learner's needs. Since funding is not available, alternative fund raising options or application for grants must be included into the planning process.

3. Scenario 3. Funding without Full time faculty Commitment

   The department may have to look for alternative support such as interested adjunct faculty or hire professionals to develop program for online learning. The planning team will also have to research for online resources to help with support. Budget planning besides technology expenses must include additional pay for hiring adjuncts and professionals.

4. Scenario 4. No funds, no support

   With no funding for technology support or faculty commitment, the department must find ways to generate supporting documentation about the benefits of online programs. Research on how other institutions have succeeded in investing online certifications/degree programs as well as statistical research studies (reputable

> educational websites) supporting the need for future online classes can be used as justifiable data to gain student and higher administrative support for program implementation.

Interpretation of scenarios. Upon analysis of the 4 scenarios, there is a strong possibility that DCD can build the online program. The only set back is DCD administration will have to spend extra efforts in raising funds where there is a lack of funds, hire alternatives such as adjuncts if full time faculty does not wish to be part of the online program. Other possible solutions are listed in Scenario 4.

4. Futuring Tree

The planning team will consist of the following members (1) department chair, and (2) 4 full time faculty members representing each program area. Upon discussion and reviewing of the 4 scenarios, Scenario 1 has been selected by the team for the study and application exercise for the Futuring Tree.

> "Scenario 1: Support all around (Funding & Faculty Commitment)
>
> Given a full funding support from the Title V grant for technology upgrades and support systems as well as commitment from full time faculty members definitely is a strong incentive for the department. The department with the help from its faculty members must look into continual plans of developing, improving and enriching programs which can meet learners' needs."

Vision statement. The Digital Communication Department (DCD) will be one of the top departments among community and technical colleges to offer quality and exemplary online design communication programs in the area of Digital Print, Multimedia, Web and Technical Writing to its community. In addition in providing support and training to faculty will reach

their fullest potential and new innovations and excellence in teaching methods, the department will also utilize latest technology and digital tools to help facilitate and provide effective learning needs to all learners.

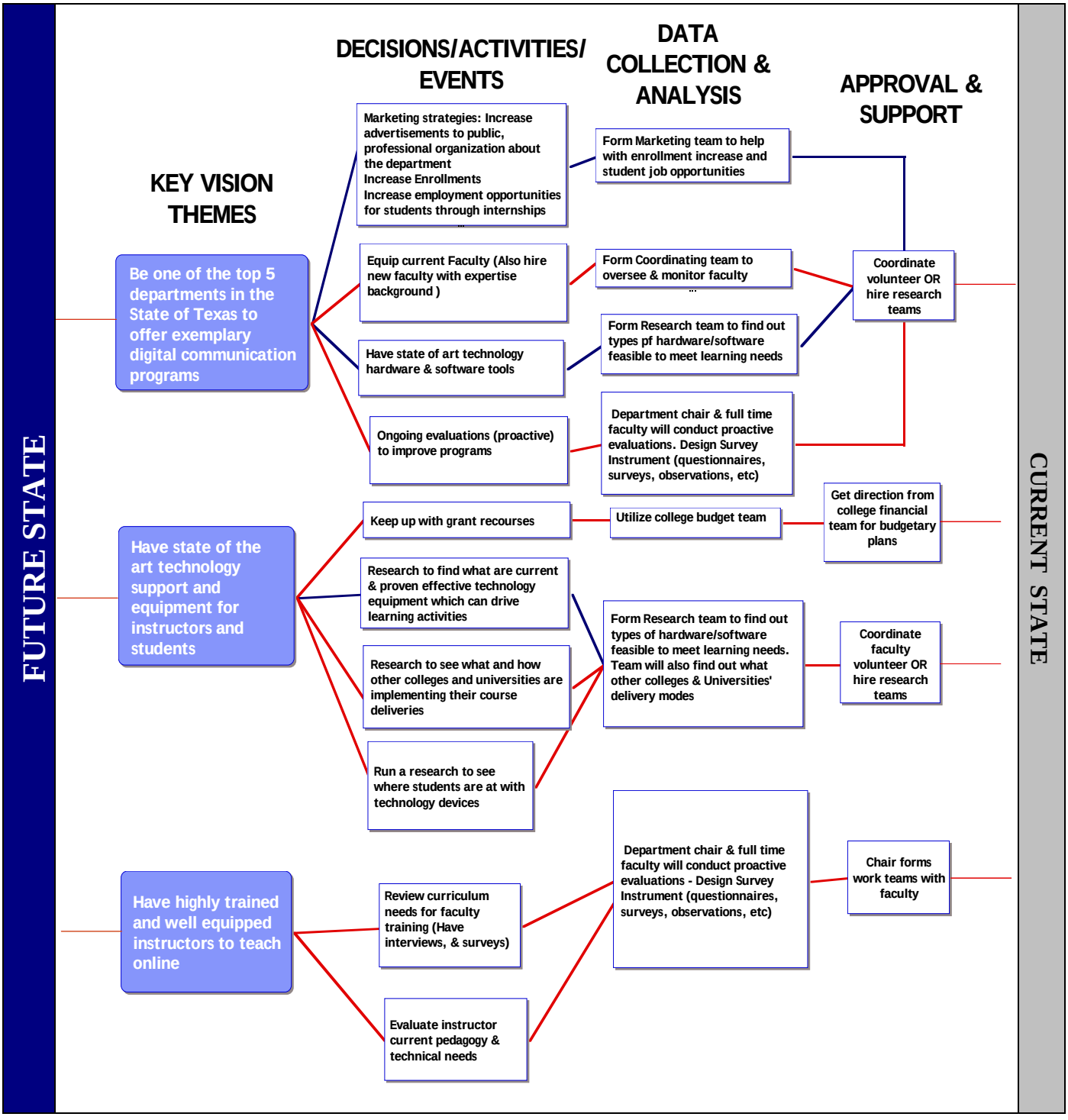
Develop key vision themes. Selected are

1. Be one of the top 5 departments in the State of Texas to offer exemplary digital communication programs.
2. Have state of the art technology support and equipment for instructors and students
3. Have highly trained and well equipped instructors to teach online

Define present or current state. The department under the umbrella of Houston Community College has faculty training and financial resources that can help meet its future planning and goals. Under the Title V grant, funding support for Technology in Teaching and Learning Excellence, the Distance Education (DE) department and Instructional Technology (IT) currently offers faculty development in technology certificate programs. The objective of the training is to, "improve teaching and learning with a comprehensive professional development program that will prepare faculty to integrate technology into the curriculum" (HCCS, n.d.).

In the Spring of 2005, DCD's department chair and faculty began discussion plans for the need of increasing their online courses which will eventually become certificate and degree programs. Currently about 20% of the faculty members have started taking the certification programs in technology course under the DE and IT department to help them with online course implementations. Also, many others have expressed interest in wanting to learn more about latest technology innovations for effective online learning.

Figure 3. Futuring tree showing pathway for vision themes (Step 5-7). Analysis of themes & building of Network Diagram. (Red lines indicate priorities)



Priorities for pathways. The question "What decisions, activities and/or events must occur for this to be the next logical step?" (Alexander & Serfass, 1999) is used as a guide while building the logical steps of the pathway for the 3 key vision themes.

Table 4 Table showing priority paths with supported rationale for path selection.

Vision Themes – with selected priority pathway (View red lines indicated in future tree diagram, Figure 1)	**Rationale for pathway selection**
Vision 1. Be one of the top 5 departments in the State of Texas to offer exemplary digital communication programs	
Equip current Faculty with support & training; Also hire new faculty with expertise background Form Coordinating team to oversee & monitor faculty training	Currently resources are available for Faculty training. Also the department is allowed to hire new adjuncts with qualifications needed for setting up online courses.
Ongoing evaluations (proactive) to improve programs. Department chair & full time faculty will conduct proactive evaluations. Design Survey Instrument (questionnaires, surveys, observations, etc). Coordinate volunteer OR hire research teams	No program can be successful without evaluations. These evaluations also known as formative evaluations will help monitor if adjustments need to be made in weak areas.
Vision 2. Have state of the art technology support and equipment for instructors and students	
Keep up with grant recourses Utilize college budget team. Get direction from college financial team for budgetary plans	Without funding, the program will be a failure. Therefore a budget team must be formed to find out funding resources before implementation of new technology equipment and the hiring of research staff

	and new adjuncts
Research to see what and how other colleges and universities are implementing their course deliveries	Faculty can help out with research to find out what are other colleges and universities are doing such as types of course offerings and implementations so that they can keep up with the competition.
Run a research to see where students are at with technology knowledge & devices	Faculty need to know what current students preferred learning styles and needs are. A simple survey during classroom discussions can help find out such information.
Vision 3. Have highly trained and well equipped instructors to teach online	
Review curriculum needs for faculty training (Have interviews, & surveys)	Department needs to make sure that faculty do have the latest training needs. Faculty surveys can be conducted by department chair and feedbacks can be used to help find out current faculty needs to implement online courses for DCD.
Department chair & full time faculty will conduct proactive evaluations – Design Survey Instrument (questionnaires, surveys, observations, etc) Chair forms work teams with faculty Evaluate instructor current pedagogy & technical needs	Faculty with online teaching experiences or qualifications can help department chair with implementing online strategies, create surveys and evaluations to help target needs. Also experienced online faculty can assist new online faculty members implement online courses. Also, department can tap into DE and IT resources for faculty training support.

Synthesis and Analysis of the Strategic Planning Process and the Four Futuring tools

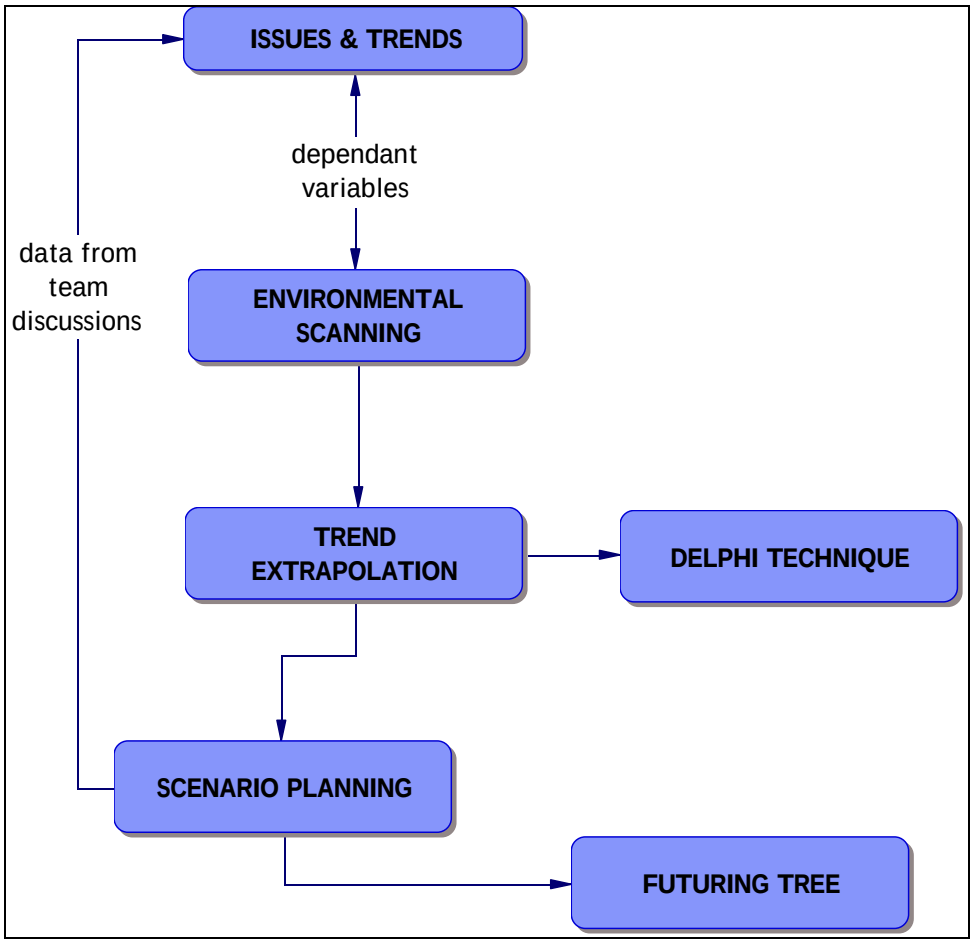
One of the most important elements which determine the success of an educational organization's future is dependant upon strategic planning and prediction for the future. Apart from the study or observations of issues and trends as well as environmental scanning processes along with the use of futuring tools, research process and techniques to help gather data, it also requires good leadership with effective teamwork and knowledgeable experts who can offer advice and practical guidance. Also, observations from the reports (case examples and methodologies from DCD) above indicate that the study of issues and trends and environmental scanning process form an important basis or "foundational process" to the development and application of the other four futuring tools, (a) trend extrapolation method, (b) Delphi study technique, (c) scenario planning and (d) the futuring tree (See Figure 4).

The study of emerging issues and trends requires that one should know and have good observations about the historical and current trends of the situation in the organization. These observations or even experiences may be derived from daily work activities, news, ongoing discussions among colleagues and students, leadership and administration, internet resources and statistical research and analysis.

The study of issues and trends is closely related to the environmental scanning process (See Figure 4). Study of published news, articles and journals on the focus topic of research for planning can offer a wider scope of the organizations' environment. For example, the report on how Houston Community College (HCC) utilizes research information, also known as vignettes from the North Central Regional Educational Laboratory (NCREL) to help confirm and understand predicted trends and issues related to their current environment about technology. Not only is HCC with the environmental scanning procedures is able to observe issues and trends

occurring within their community, observations are extended nationwide and globally as well, thus extending the scope for observational data.

Figure 4. Diagram analysis showing the relation of how the strategic process and data collected from 4 futuring tools are connected.



The process of studying issues and trends along with environmental scanning procedures is not enough in helping with the organization future planning process. Additional tools are required to help with refining the planning process which is applicable to the organization. Each organization has different structures, needs and goals.

As stated earlier, the four futuring tools, namely, trend extrapolation, Delphi study techniques, scenario planning, and the futuring tree are several examples which can be used to

help with the refining and furthering of the research process for future planning (See Figure 4). Selection of the tool for research is dependant on the organization type, structure, size, administrative staff, and availability of volunteer or assigned research team and knowledge experts. Other factors may include time and budget constrains.

To help find pressing issues, trends and development of an organization, the trend extrapolation method requires that team members have a historical background about the organization. If such information is not available, the team will have to conduct additional research to find out about organization's past. The team will need to know the current situation of the organization. If knowledge is not available, opinion surveys have to be conducted within the organization to help get justified and cause and effect data. The trend extrapolation method conducted at DCD involves study into the past and possible future. The results indicate technology changes to be the driving factor. The trend extrapolation method will not be an effective futuring tool if valid data from research surveys is not available from administration, faculty and students.

The Delphi technique used at the Digital Communication Department as a stand alone futuristic tool will not work. The study calls for the need of information collected from an extrapolation study, thus making the trend extrapolation study the foundation to the Delphi study. In addition to the methodology of research, surveys must include participants known as the panel of experts who are knowledgeable about the organizations topic of research. Besides creating effective questionnaires for the survey, extra time and work is needed to search for "qualified" participants known as the expert panel and the running of the survey iterations. An organization must be prepared to face such challenges for the Delphi study technique.

Scenario planning again requires much time and work of a committed team with current knowledge of the organization's development plans. Communication is the crucial key for this planning tool. The team must be able to brainstorm by sharing ideas openly with one another, discuss potential planning risks and outcomes, as well as thoughts related to the organization's future. Collected key factors during the brainstorming process then can be used to help build effective scenarios. The additional advantage to this method is that data collected during discussions can be also used for issues and trends observation analysis in environment scanning as well as trend extrapolation methods for the organization (See Figure 4). The scenario planning process is also an effective futuring tool for helping an organization view the various possibilities and outcomes of cause and effects of selected key factors ("what-if" situations).

The futuring tree tool as shown in one of the reports is dependant on the building of a scenario. The scenario helps build the vision statement for the organization. A well planned scenario process can help develop strategic visions. Without a vision, the futuring tree tool cannot be used for strategic planning for the future.

The futuring tree is built from a "backward" strategy method; that is envisioning what the vision which is related back to the present state of the organization. As shown in Figure 3, the futuring tree shows the starting path of a key vision statement at DCD consisting of various themes. A variety of activities and data collection process along with administrative support is needed for this process is traced back to the current state. Similar to the above tools, the team is also required to know the current and future vision for the organization. The team also needs to know who the supporting staff members in the organization are and what are their roles and responsibilities (tracing of multiple pathways indicating the various priorities – see figure 3).

With the approval from supporting staff administration, resources and services, the key vision themes cannot be achieved.

Conclusion

Diagram schematics shown in Figure 4 along with the synthesis and analysis for the various processes and tools used for strategic future planning for an organization strongly indicates that an organization can utilize various tools to help with the planning process. Any tool can be used to help with strategic planning for the future improvement for an organization, but it cannot function without a committed team with working knowledge of the various strategies and tools. Leadership also plays an important role in the strategic planning process with the team. In addition guidance and knowledge skills from experts can add to the success of the organization's futuring project. Hence, an organized, committed and equipped team along with the use of tools applicable to the team's knowledge and organization form the important element in the success of strategic and quality future planning for an organization.

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