

Enterprise Architecture Report for “Distance CE”

For

ICT-4010 Enterprise Architecture

Master of Science

Information and Communications Technology

Jeff Parente

University of Denver University College

November 10, 2019

Faculty: Dr. Steve Else, Ph.D.

Director: Thomas Tierney, PhD

Dean: Michael J. McGuire, MLS

Table of Contents

Executive Summary	iv
Background	1
Major Architectural Issues	3
Analysis of Major Architectural Issues	4
Strategy and Policy Issues	4
Business Process Issues	6
Data, Information, and Knowledge Issues	8
Information Technology Issues	13
Recommended Solutions and Conclusion	14
Target Architectures	15
High-Level Roadmap	19
Conclusion	20
Appendices	22
Appendix A: Organization Map	22
Appendix B: Process/System Realization Diagram	23

Appendix C: Data Dissemination Diagram	24
Appendix D: Process Flow Diagram	25
Appendix E: EA3 Cube Diagram	26
References	27

Executive Summary

The company referred to as “Distance CE,” or “DCE,” provides quality Continuing Education (CE) programming to professionals via Internet delivery of streaming videos. It has a small staff and is structured as an Organizational Network Model. DCE currently has a “diversification” operating model and is in the “business silos” stage of Enterprise Architecture (EA) maturity.

DCE currently has major architectural issues with regard to: strategy and policy, business processes, information architecture, and information technology. It lacks clear articulation of strategic goals. Product setup is unnecessarily repeated across lines-of-business. Relevant information is not effectively shared between business units. Improvements to its webcasting platform are not coordinated between business units. Multiple redundant websites are maintained unnecessarily.

It is recommended that DCE establish clear, actionable strategic goals and a process for their regular updating. Implementation of an agile methodology can aid in achieving DCE’s strategic goals. It is suggested that DCE develop a single brand for all of its products to reduce unnecessary repetition of employee efforts with regard to product setup and website maintenance. DCE’s processes and information should be integrated to allow employees more efficient access to required information and the proper prioritization of webcasting platform development efforts. It is suggested that DCE move towards a “coordination” operating model and the second stage of EA maturity, “standardized technology.”

Background

“Distance CE,” abbreviated as “DCE,” is a pseudonymous name for a company that has been providing Continuing Professional Education (CPE) programming to professionals for over twenty years. Continuing Professional Education, alternately known as Continuing Education (CE), refers to the educational activities in which various types of professionals engage to stay abreast of current developments in their field (Wysocky 2018, 15). Many professions require practitioners in the field to attain a specified number of CPE credit hours annually. This is typically the case for industries that require an active professional license to practice in the field. Traditionally, these CPE credits were usually earned through attending professional conferences, wherein speakers would present on various industry topics, and individuals would receive CPE credits from attending (Wysocky 2018, 16).

Since its creation, DCE has been a pioneer in providing CPE via distance learning. Originally, DCE used satellite broadcasting to offer its quality CPE programming. Later, as broadband networking proliferated, DCE became the first in its industry to offer CPE programming through streaming video webcasts. Thus, DCE was able to offer quality live CPE to customers across the country, rather than requiring participants to attend in-person conferences. DCE began by providing CPE programming for accountants. Eventually, it invested in a startup Application Service Provider (ASP) to provide it with a webcasting platform and strategic control over said platform. Over time, DCE’s offerings grew to include CPE programming for professionals in the insurance industry, and more recently, Human Resources (HR) professionals.

DCE's growth has been slow and organic. It remains a small business with limited full-time staff members, and a number of part-time workers. Its growth has resulted in an Organizational Network Model (ONM) structure, as is diagramed in *Appendix A*. As is typical for Organizational Network Model enterprises, "[the] Executive Team sets policy and goals, approves resources, and evaluates results, while semi-autonomous Functional Teams and Independent Workers manage ongoing programs/lines of business, new development projects, and team-specific resources" (Bernard 2012, 935-938). This structure has enabled much of DCE's success by allowing it to maintain a small staff with minimal overhead. This structure has also enabled DCE to be highly responsive to end users, as well as the marketing partners who account for the vast majority of its program sales.

However, the company's organic growth and Organizational Network Model structure have also resulted in architectural concerns that need to be addressed. The ONM structure means that DCE has low integration and standardization of processes, also known as a "diversification" operating model (Ross, Weill, and Robertson 2006, 570-573). Additionally, technology solutions are typically made in service of particular business unit needs, with little consideration for how they fit into the overall business. This means that DCE is in the first stage of architectural maturity, known as "business silos" (Ross, Weill, and Robertson 2006, 1086-1087). As a result, there are places in the organization where employees make redundant efforts across different lines of the business. Additionally, employee efforts and technology are often not aligned with long-term strategic goals for the organization.

With regard to architectural improvement, DCE will need to achieve success in both the short-term and long-term. Short-term success would mean the acceptance by top-management of the need for adoption of EA principles and the establishment of an architectural development project. Success in the long-term will mean that steps are taken to eliminate, mitigate, or else justify all the major architectural issues highlighted.

Major Architectural Issues

Strategy and Policy

- The company lacks clearly articulated strategic goals.

Business Processes

- The company repeats efforts with regard to product setup for each line-of-business.

Data, Information, and Knowledge

- Relevant product information is often not shared between lines-of-business.
- Development of new ASP features is uncoordinated between lines-of-business.

Information Technology

- The company maintains separate websites for each line-of-business.

Analysis of Major Architectural Issues

Strategy and Policy Issues

The first major architecture issue for DCE is the lack of clearly articulated strategic goals. The company has a small and highly motivated staff who are constantly looking for ways to improve the organization's positioning in the market. However, actionable strategic goals for the company either do not exist or are understood by employees in only broad and vague terms.

In order for strategic goals to be effective in guiding an enterprise, they must have enough specificity to provide guidance as to how resources should be allocated (Bente, Bombosch, and Langade 2012, 1197-1198). The acronym S.M.A.R.T. can be used as a guidepost to the creation of actionable goals. "SMART" goals are those that are: Specific, Measurable, Actionable, Relevant, and Time-bound (Bente, Bombosch, and Langade 2012, 1191-1192).

A vague understanding of goals does not provide staff with any real guidance as to how they should direct their actions. For example, if a staff member's understanding of the company's goals is simply, "increase sales" the employee has no particular information about how to direct his or her actions apart from that which is already being done. In practical terms, such vague goals result in only communicating an instruction to keep doing what was already being done. In effect, this means that having only vague strategic goals is essentially the same as having none at all.

By contrast, an example of a SMART goal for DCE would be, “we want to increase our direct sales of accounting CPE programs to new customers, by ten percent, over the next twelve months.” This much more specific goal provides employees with guidance as to where their efforts need to be directed. It suggests that efforts need to be focused towards the generation of new customers, through direct sales efforts, rather than through marketing partners. Additionally, it provides a measurable target, making it possible to know if it has been achieved, and it provides a deadline to communicate a level of urgency.

One of the primary goals of the enterprise architecture discipline is to ensure the alignment of an organization’s strategic goals with business processes and technology (Bernard 2012, 1320-1321). A lack of sufficiently specific strategic goals, or a lack of understanding thereof by employees, makes this alignment of strategy and employee actions impossible. Additionally, without such alignment, employees are essentially left to their own devices to pursue strategic initiatives or else are only charged with maintaining the status quo. In the case of the latter, the result is that creating competitive advantages is made difficult, and the organization as a whole is forced to be constantly reactive to changes in the market (Meulenbroeks 1998, 148).

Strategy and Policy Base Architecture

In its current form, the strategy and policy architecture of DCE is lacking clear articulation of strategic goals. As a result, individual employee efforts are not well aligned towards reaching said goals. At present, there is also no established policy or procedure for regular evaluation and updating of strategic goals to ensure they are current and relevant.

Additionally, at present DCE does not have a central repository to house strategic goals. As a result, even if strategic goals were clearly articulated, they would not be readily available for staff and key decision makers to reference, when considering a course of action. Similarly, it is not currently a part of DCE's corporate culture for decision makers to evaluate routine decisions in light of the organization's overall strategic goals.

Business Process Issues

The next major architectural issue that DCE needs to address is related to its business processes. DCE's siloed approach to product sales results in the duplication of efforts for different lines-of-business. This duplication of efforts is inefficient and results in unnecessary expense to the company in the form of wasted employee efforts (Ro 2015).

As previously stated, DCE produces CPE content in multiple lines-of-business. Most often, these courses are industry specific. For example, detailed accounting courses are not relevant to Human Resources professionals. However, in some cases, particular topics, such as "employee management," are highly relevant to customers of multiple lines-of-business.

At present, DCE utilizes separate front-end sales catalogs for each line-of-business. This is driven by the fact that each line has its own CPE credit requirements, which are dictated by industry specific authorizing bodies. In addition, each industry's product offerings from DCE have their own industry specific branding. This includes, but is not limited to, the brand name for each line's offerings. As a result, DCE utilizes separate catalogs when offering a course to customers of both lines-of-business. This is done so as to describe a given course's CPE credit appropriately for the industry, and apply the appropriate industry specific branding.

However, this way of offering a given course through multiple lines-of-business is very inefficient. After being recorded, a given course must then be sent through post-production editing to have the appropriate branding applied for both lines-of-business. It must be uploaded and setup for both lines-of-business. It must be setup as a front-end product for both lines-of-business, and that product must be separately distributed to marketing partners for both lines-of-business.

As described, this siloed approach is wasteful of employee time and efforts. What is essentially the same work is repeated for each line-of-business. The same course must be edited, uploaded, and setup multiple times. Additionally, that same course must be entered into the product catalog and distributed multiple times. An Enterprise Architecture approach views this kind of repetition of efforts as wasteful and inefficient (Ross, Weill, and Robertson 2006, 250-258). In order to fully utilize employee time and efforts, whenever possible, the same tasks should not be repeated for separate lines-of-business (Ross, Weill, and Robertson 2006, 250-258).

Business Process Base Architecture

In its current form, DCE's business processes are highly siloed. Employee efforts are not well utilized with regard to products that can be offered in multiple lines-of-business. Product creation, branding, and sales are not approached from an enterprise-wide perspective. Instead, product creation, branding, and sales are all handled specifically for each business unit. As a result, employee efforts are regularly repeated across different lines-of-business.

Data, Information, and Knowledge Issues

Two specific issues have been identified as concerns for DCE with regard to its information architecture. Relevant work-product information fails to be shared between business units efficiently or all together. Additionally, development projects that will be given to the company's Application Service Provider (ASP) are not internally coordinated.

The first information architecture issue is the failure to share relevant work-product information between business units. As a result of DCE being in the first stage of business maturity, "business silos," each operational unit has developed its own processes to accomplish business unit goals (Ross, Weill, and Robertson 2006, 1101-1121). Each unit's solutions are effective in solving the particular needs of the given unit. However, solutions lack both standardization and integration of processes across business units. The result of this is that when business units need to pass information to each other, it is generally done clumsily by email. The issue can be seen when examining a hypothetical case study of the creation of a new accounting CPE program.

When new accounting CPE courses are to be produced, personnel from the accounting line-of-business work with the contracting presenter to establish the basic course information, such as the topics and when the courses will be produced. Once this is done, accounting line staff further coordinate with the presenter to develop and gather detailed course information such as duration, specific types of CPE credit offered, detailed course descriptions, logistical video production information, and more. All this information is collected in formats and systems developed by and for the accounting line-of-business. Personnel from this line then set

up the individual courses in the ASP system for recording based on the gathered information. Then they email what they think is relevant to personnel from the business unit that handles the video production and recording of the courses. Since there is not a standardized or integrated process between the two units, personnel from both units then typically email back and forth to iron out the details of the upcoming course video production.

Next, the video production unit produces the programs. Information regarding the produced courses is collected using the video production unit's own internally developed processes and systems. Following the production of the program, video production staff then finalize the set up of the programs for customer purchase in the ASP system, and email the accounting line staff if there is information they believe is relevant to them.

As illustrated in the preceding case study, this process involves several inefficiencies from the lack of integration or standardization. The accounting line staff collects relevant information and then do not share it directly with video production line staff. Instead, the accounting line staff pulls what they believe to be the relevant information, and place it another system, namely email. The lack of standardization of this process often results in some relevant information not reaching video production line staff, and a series of emails back and forth is required. Similarly, following the recording of the course, video production staff take what they believe to be relevant information from its systems and place it in another form, again email, to be sent over to accounting line staff. Once again, the lack of standardization of this process often results in some relevant information not reaching staff, or a series of emails back and forth is required. *Appendix C* diagrams the dissemination of this data.

Staff repeatedly moving data back and forth between separate systems as described is an indicator of poor alignment of processes and technology (Ross, Weill, and Robertson 2006, 251-258). Each individual instance of this inefficiency is relatively small. However, since it is a regular part of the process, the amount of employee time it requires, in aggregate, is likely rather significant. In addition, because the process of sharing relevant information is not standardized or integrated, it relies on staff members to recall what is relevant, and why, in each instance. Such a process, that requires employees to recall detailed, specific information related to the company's products is prone to error, since human memory is highly fallible (Beaton 2016). Additionally, having to improvise a method for sharing the relevant information is more mentally taxing on staff members than is necessary, which creates additional inefficiency in the use of employee's efforts (Amir 2008).

The second information architecture issue is the lack of internally coordinated efforts regarding the development of new features by the company's Application Service Provider (ASP). As previously stated, DCE is invested in an ASP company that provides it with a webcasting platform. This platform provides a number of very key services. The ASP provides a front-end e-commerce catalog to allow end users to purchase DCE courses. It also provides the viewer page that allows end users to actually view the course and access the related course information. Finally, it provides several other services in support of those two primary functions, such as the interfaces to control what end-users receive when they view a course.

The ability to get new features it requires developed at no additional charge was one of the primary strategic advantages that led to DCE's investing in the ASP organization. In the

normal flow of operations, DCE staff will identify a particular need, such as a feature that does not currently exist, or a cumbersome inefficiency in the system's current required workflows. DCE staff can then work with ASP staff to create the technical requirements for the development and submit it to them to be developed. This process also involves DCE staff articulating the level of priority and urgency associated with the requested development, so as to allow the ASP to prioritize it properly within the flow of its other development projects.

Each DCE business unit currently handles this process separately. Staff from a particular business unit will identify the given need for development and work with the ASP staff directly to articulate the technical requirements, assign a priority level, and get the development request submitted. The result of this is that DCE is unintentionally affecting the overall pace of its development requests and significantly underutilizing its ability to get new system improvements created. If DCE were to successfully take advantage of such capacity to improve core processes, it could yield higher profitability and receive overall greater benefit to the company (Ross, Weill, and Robertson 2006, 201-202).

However, the lack of information flow between business units unintentionally hinders each other's development efforts. Units are not aware of what other business units are requesting, or why the other unit's requests are important. As a result, when DCE staff assign a priority and urgency level to a development request, there is a strong possibility of putting what is overall a less important development in front of a more important one.

In addition, the underutilization is manifest in two ways. First, since each business unit is requesting developments for its own particular needs, the ability to alter development requests

so as to benefit other lines-of-business is lost, since information regarding developments does not flow from one unit to another. It is possible, if not likely, that in a great many circumstances, other lines-of-business could benefit from the development proposed by a business unit. However, in order to best suit both lines-of-business, the technical specifications would need to be altered in many cases, so as to take into account the needs of the additional business units. The failure to account for the needs of other lines-of-business artificially increases the number of development requests DCE makes, as well as the pace at which they can be completed.

The other, much more significant way in which the development capacity is underutilized is related to the company's long-term strategic goals. ASP system development requests are made on an ad hoc basis, by a given business unit, to solve a particular business need. Without viewing such requests in light of the whole organization, there is no mechanism to enact larger system improvements to achieve long-term strategic initiatives. Thus, by keeping information regarding ASP developments siloed in business units and not viewing them from an enterprise-wide perspective, DCE is failing to fully utilize its capacity for creating larger system improvements. Such improvements could significantly benefit DCE's core operations and improve its competitiveness in the market (Ross, Weill, and Robertson 2006, 196-198).

Data, Information, and Knowledge Base Architecture

In its current form, DCE's operational information is often siloed in business units. Business units all operate their own systems to perform unit specific tasks, as is shown in *Appendix B*. Information is shared between units by employees inefficiently taking data from

one system and placing into another. This system also relies on the assumption that employees in one unit know what information the other units will require. However, practice reveals that they often do not, resulting in information being lost or the need for time-consuming back-and-forth between employees.

Information regarding a key process, the development of new features on the company's webcasting platform, is siloed in business units and does not flow between units. This prevents the ability to integrate development projects. Additionally, the lack of an enterprise-wide view of such development information prevents proper prioritization, and integration into enterprise-wide strategic goals.

Information Technology Issues

DCE's architectural maturity, that of business siloes, has resulted in a major architectural issue in its implementation of Information Technology (IT). The company does not utilize enterprise wide IT implementations for the key business functions served by its websites. Instead, efforts of implementation, maintenance, and improvement of websites are repeated for each line-of-business.

As previously stated, DCE's growth has been largely organic, over time. Originally, the company had a single website, which spoke to its accounting CPE offerings. When it expanded into offering insurance CPE, a new website was created to speak to the new offerings. Similarly, new sites were added as the company later began to offer freelance video production, and most recently, Human Resources continuing education.

As a result, DCE staff must repeat efforts on the tasks of website technical maintenance, content updating, and continued improvement efforts for each line-of-business. This repeating of efforts for each line-of-business is extremely inefficient and unnecessarily expensive. Employee salaries are the largest expense for most corporations (Ro 2015). Thus, using their time inefficiently, such as described above, is very expensive. Additionally, it is wasteful of the company's financial resources, which are limited. This repeating of efforts by business units is a classic example of the type of issue that enterprise architecture, as a discipline, seeks to solve (Ross, Weill, and Robertson 2006, 250-258).

Information Technology Base Architecture

In its current form, DCE's Information Technology implementations are business unit specific. They are well suited to fulfill the needs of the particular business unit they serve. However, across the enterprise as a whole, they are often redundant and unnecessary. The redundant implementation of IT solutions, in particular separate websites for each line-of-business, is also expensive, as a result of the cost of wasted employee time.

Recommended Solutions and Conclusion

In addition to the specific proposed architectures below, DCE can benefit significantly from the adoption of an Enterprise Architecture approach to its organization and operations. Formal adoption of an EA program is strongly recommended. In order to ensure success, key management and staff members should be presented with an overview of the case for adopting

an EA methodology (Kotter 2012, 36). Such key personnel can then serve as a guiding coalition, aiding in the implementation of an EA program (Kotter 2012, 51-52).

The criteria used for evaluating proposed target architectures are three-fold. First, expenditures beyond current expenses should be minimal. Second, disruption during the transition towards the target architecture should be as minimal as possible. Finally, proposed target architectures should enable DCE to largely maintain the benefits of its current Operational Network Model structure. Specifically, the benefits to be maintained are: minimal bureaucratic overhead, flexibility to react quickly to customers and marketing partners, and the ability of business unit teams to pursue entrepreneurial efforts and improvements.

Target Architectures

Target Strategy and Policy Architecture

The proposed target architecture for DCE with regard to strategy includes formally articulating clear, actionable strategic goals, as well as a process for their regular reevaluation and update. In addition, such goals need to be widely accessible to staff. The corporate culture must encourage alignment of business processes and the overall strategic goals (Kotter 2012,146-147). Data regarding the company's strategic goals should be housed in an online repository for easy, on-going access by staff members (Bernard 2012, 703-704).

The company's small size means the adoption of an agile management methodology can be relatively simple as well as beneficial (Aarti and Karande 2017, 40). An agile methodology can aid in overall corporate management, while allowing the company to maintain much of the

flexibility of its current Operational Network Model (Stoica et al. 2016, 9). In addition, such a methodology can serve as linking mechanism to help ensure alignment of project level activities and the overall corporate strategic goals (Ross, Weill, and Robertson 2006, 1725-1732).

Finally, the company should make use of EA3 framework's "Cube Diagram," as shown in *Appendix E*, to help ensure understanding of operational goals at all levels of the company. A solid understanding of operational goals will aid in the overall alignment of processes and strategic goals.

Target Business Process Architecture

Target architecture with regard to business process for DCE should focus on the elimination of redundant tasks for each line-of-business. Repeating efforts, such as setting up the same CPE course multiple times across lines, is an inefficient use of employee time and effort. In addition, it places unnecessary strain on the company's financial resources (Ro 2015).

The company's siloed approach to branding creates unnecessary post-production editing projects, so that the line-of-business branding can be applied to the videos. The adoption of a single, enterprise-wide brand would prevent such unnecessary rebranding efforts and free up employee time. To ease the transition to a new company-wide brand, the current brands can be relabeled as "a division of" the new brand for an extended period of time.

Similarly, course creation and front-end sales are approached from a siloed, line-of-business specific perspective. This is driven in large part by the present capabilities of DCE's Application Service Provider platform. At present, the platform is not well suited to enable the sale of products from different lines-of-business. To enable this capability, DCE staff will need to

identify all the specific system requirements and front-end user interface capabilities that would be necessary. For example, the ability to offer alternate types and amounts of CPE credit on the same course would have to be created. Similarly, the front-end sales interface would need to create new mechanisms, to clearly distinguish between different line-of-business products. Once all the required specific features have been gathered, DCE can have them developed by the ASP, so as to eliminate the redundant employee efforts.

Target Data, Information, and Knowledge Architecture

Target information architecture for DCE revolves around increased process integration across the enterprise. Rather than separate business unit specific systems that require employees to constantly remove information from one system and send it in other, namely email, an integrated system should be implemented. All relevant business units having access to the same integrated system can allow each unit full access to the specific information they require. Such integration could also minimize time-consuming back-and-forth between employees and eliminate the moving of data from one system to another as a standard practice. DCE currently uses Google Apps for its email services, as well as some internal collaborative projects. Expanded use of the collaborative tools in Google Apps may be adequate to integrate processes sufficiently (Matthews 2017). Upon review of the company's full requirements, Microsoft's SharePoint should be considered as a possible solution as well (Sabio, n.d.). The use of a standalone, cloud-based knowledge management tool may also be required to optimize the company's information flow (Singh 2018).

In addition, development efforts with the company's Application Service Provider must be coordinated between business units, as has been modeled in *Appendix D*. An enterprise-wide approach to platform development must be adopted in order to allow for the development of tasks related to long-term strategic goals. The coordination of development efforts between units will also allow for the proper prioritization of projects.

Target Information Technology Architecture

Target information technology architecture for DCE revolves around the reduction or elimination of redundant IT systems. The company's current implementation of corporate websites is a primary concern. Separate websites for each line-of-business should be replaced with one single site, that represents the company as a whole, while still providing detailed information regarding each line-of-business. This process would be aided by the adoption of a single enterprise-wide brand, as also proposed in the *Target Business Process Architecture* section of this paper.

The process for replacing the current sites with a single one can be staged, so as to minimize the disruption of operations. The proposed new site can be built out to incorporate each line-of-business one at a time. The site most in need of updating, that for the insurance line, can serve as the starting point. Once the insurance area of the site is complete, the new site can then replace the existing insurance one. At launch, the new site can direct users to the separate sites for the other lines-of-business, while those areas of the new site are still being built out, one at a time.

High-Level Roadmap

High-level Roadmap for Implementation			
Phase	Phase Completion Goal	Required Activities	Projected Duration
0	Obtain buy-in from key stakeholders for EA initiative	Present EA report to key stakeholders	One Week
1	Establish EA Implementation Plan	Establish EA project team and Chief Architect Establish EA governance plan Determine linking process towards operational business units	One Week
2	Select EA framework and supporting requirements; provide baseline for analysis	Select EA Framework Define EA documentation requirements and specifications Establish EA cloud repository Document current architecture	Two Weeks
3	Provide overarching guidance for action	Define corporate strategic goals Initiate agile methodology for corporate management	One Week
4	Lay groundwork for integration of DCE processes	Assign ASP platform development coordinator for the company Compile full criteria for single system to provide access to relevant data to all personnel	One Week
5	Research implementation requirements for site, brand, and product integration	Research into Search Engine Optimization for single integrated DCE brand Research into system requirements to remove redundant ASP product setup Research integrated single system to provide access to relevant data to all personnel	Three-Four Weeks
6	Develop integrated brand	Develop single brand for DCE	Two Weeks

7	Implement integrated systems	Submit system requirements for product integration to ASP for development	Two-Three Months
		Begin construction of new single DCE website for first line-of-business' implementation	
		Begin implementation of integrated single information system to provide access to relevant data to all personnel	
8	Complete and make use of integrated systems	Begin use of integrated single information system to provide access to relevant data to all personnel	One-Two Months
		Begin use of integrated products on ASP platform	
		Complete staged implementation of single DCE site	

Conclusion

DCE can benefit substantially by incorporating Enterprise Architecture principles and implementing a formal EA plan. The company currently operates in a diversification model and in the “business silos” stage of EA maturity (Ross, Weill, and Robertson 2006, 1086-1087). However, the company stands to benefit greatly by integrating its processes and making information more available across the enterprise (He et al. 2006, 1757). The regulatory bodies governing CPE credit for the different lines-of-business make the standardization of processes across the enterprise difficult. Thus, the adoption of a coordination model would be well suited to the company’s needs (Ross, Weill, and Robertson 2006, 601-632). As part of the same effort, DCE can begin to standardize its technology implementation and move to the “standardized technology” stage of EA maturity (Ross, Weill, and Robertson 2006, 1127-1155).

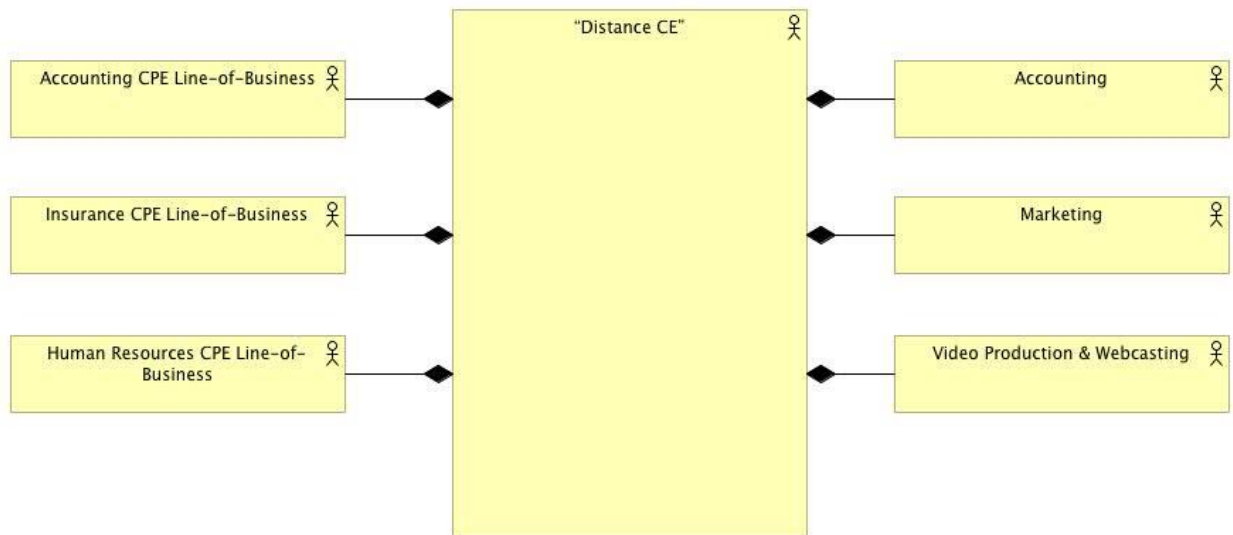
The adoption of an agile methodology can help in the implementation of a formal EA plan, as well as aid general operations by helping to link overall corporate strategy with projects and individual employee actions (Bente, Bombosch, and Langade 2012, 4333-4340). The adoption of a single corporate brand can aid in reducing redundant efforts. The standardization of IT systems and integration of key processes can help generate efficiency in business processes.

DCE can reduce its costs by eliminating wasted efforts and free up employee's time to be used more productively. By proactively pursuing the target architectures proposed, DCE can make significant progress towards achieving long-term strategic goals and positioning itself for the future.

Appendices

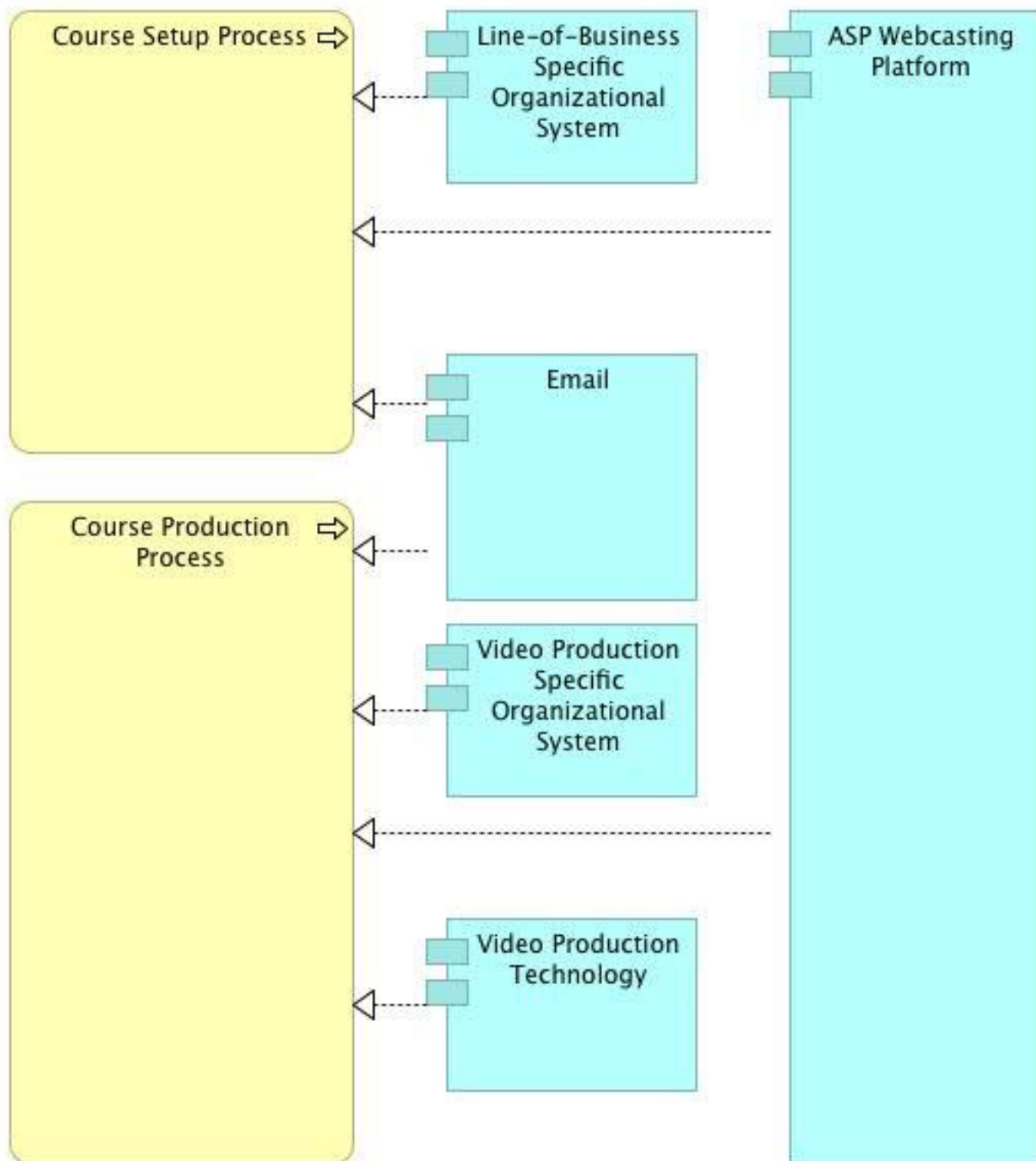
Appendix A: Organization Map

Business Architecture: DCE Organization Map (Current View)



Appendix B: Process/System Realization Diagram

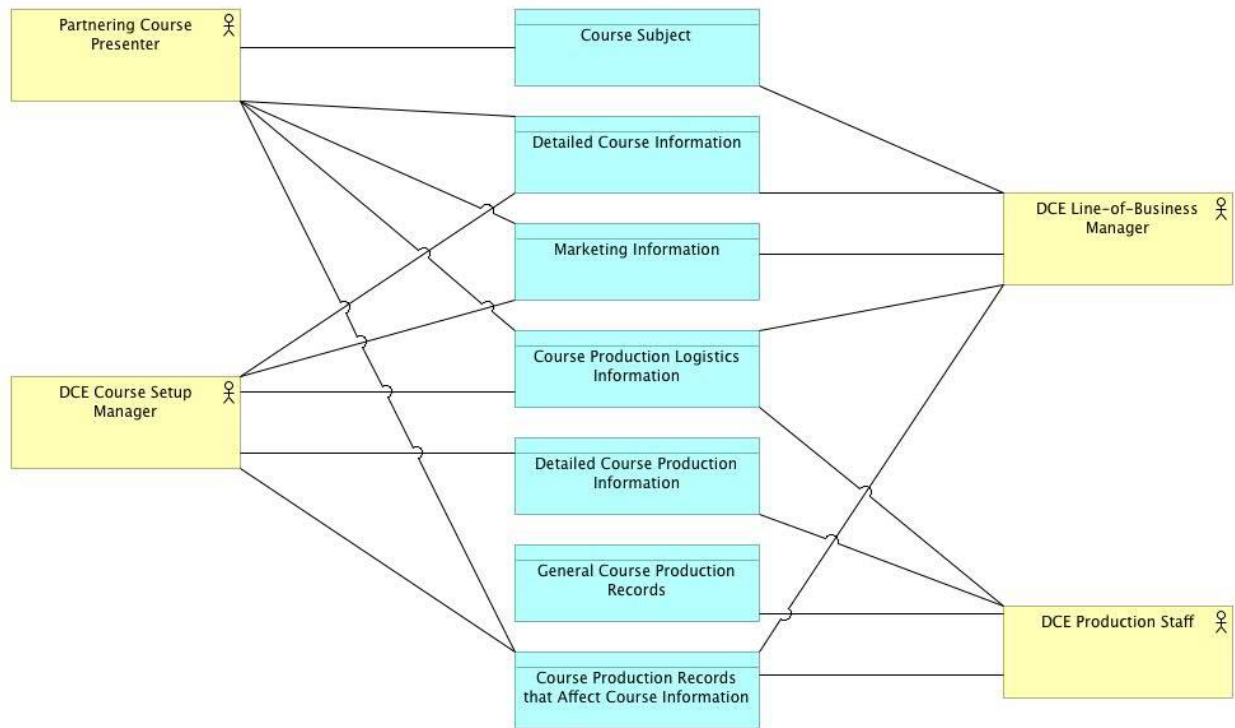
Application Architecture: Process/System Realization Diagram for CPE Course Setup and Production (Current View)



Appendix C: Data Dissemination Diagram

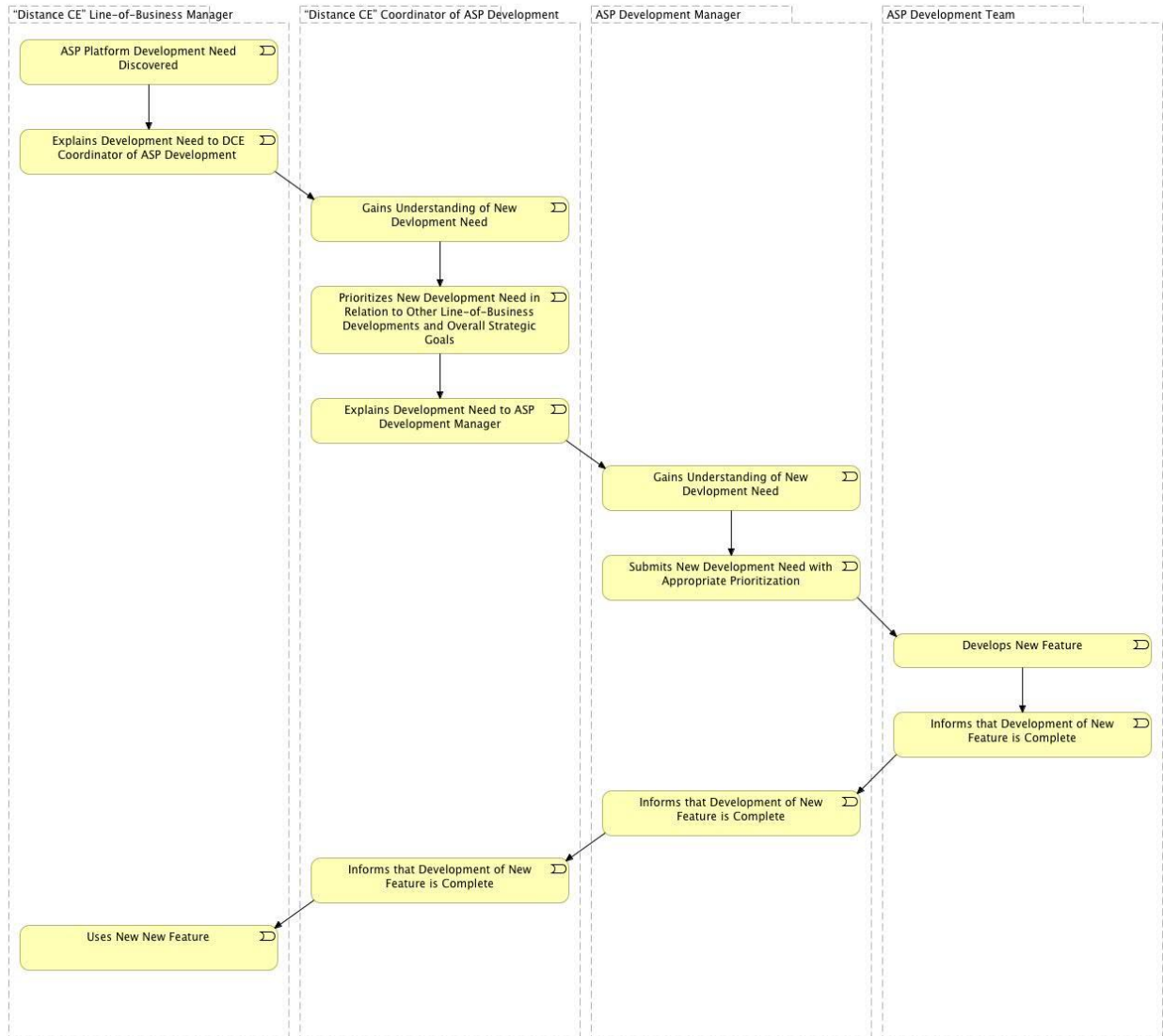
Information/Data Architecture: Data Dissemination Diagram of Course Production Information

(Current View)



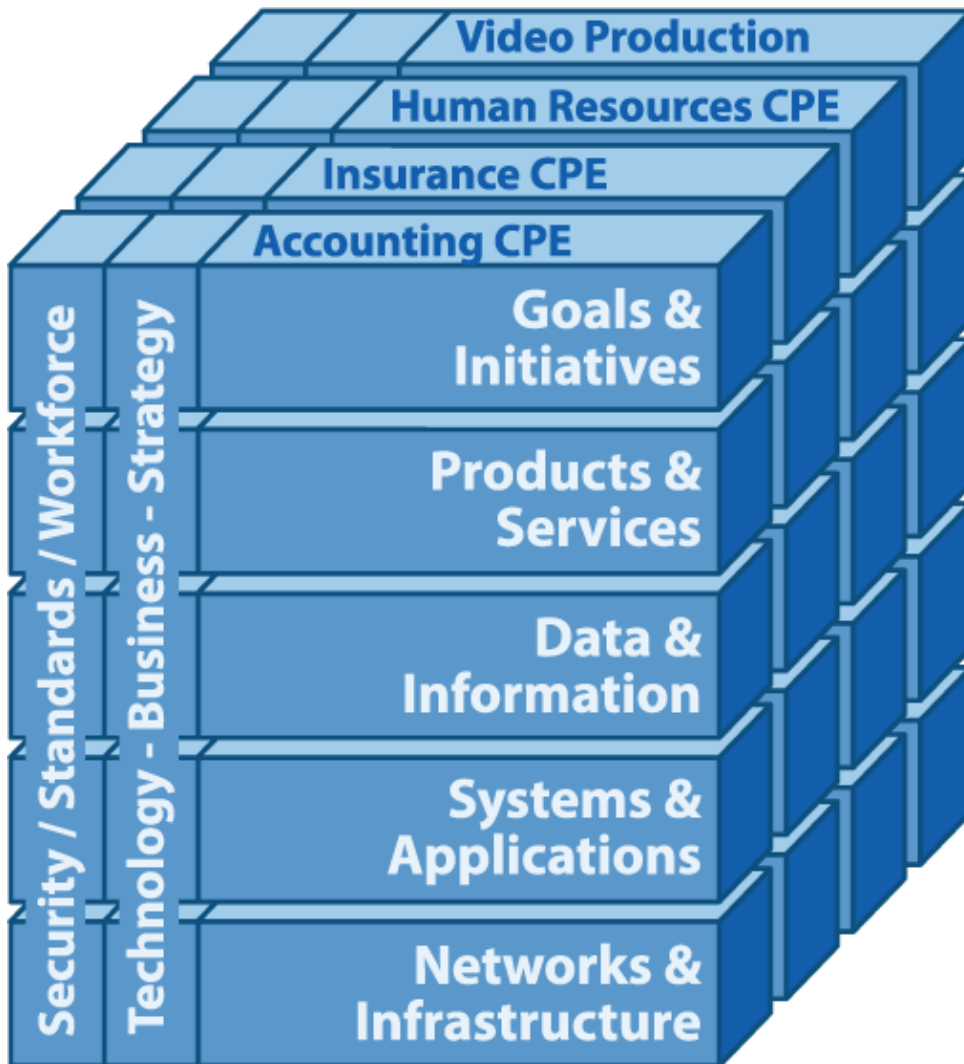
Appendix D: Process Flow Diagram

Technical Architecture: Platform Development Process (Target View)



Appendix E: EA3 Cube Diagram

DCE Mapped to EA3 Cube Diagram (Current View)



References

- Aarti and M. Karande. 2017. "SELECTION OF ENTERPRISE ARCHITECTURE BASED ON AGILE PARAMETERS FOR SCM-BASED CASE STUDY." *Scholedge International Journal of Business Policy & Governance* 4, no. 5: 36-55.
<https://doi.org/10.19085/journal.sijbpg040501>.
- Amir, On. 2008. "Tough Choices: How Making Decisions Tires Your Brain." *Scientific American*, July 22, 2008. <https://www.scientificamerican.com/article/tough-choices-how-making/>.
- Beaton, Caroline. 2016. "This Is What Happens To Your Brain When You Fail (And How To Fix It)." *Forbes*, April 7, 2016.
<https://www.forbes.com/sites/carolinebeaton/2016/04/07/this-is-what-happens-to-your-brain-when-you-fail-and-how-to-fix-it/>.
- Bente, Stefan, Uwe Bombosch, and Shailendra Langade. 2012. *Collaborative Enterprise Architecture*. Waltham: Elsevier. Kindle Edition.
- Bernard, Scott A. 2012. *An Introduction to Enterprise Architecture: Third Edition*. Bloomington: AuthorHouse. Kindle Edition.
- He, W., X. G. Ming, Q. F. Ni, W. F. Lu, and B. H. Lee. 2006. "A unified product structure management for enterprise business process integration throughout the product lifecycle." *International Journal of Production Research* 44, no. 9 (May): 1757-1776.
<https://doi.org/10.1080/00207540500445453>.

- Kotter, John P., 2012. *Leading Change, With a New Preface by the Author*. Boston: Harvard Business Review Press. Kindle.
- Matthews, Kayla. 2017. "7 Google Teamwork Tools for Online Collaboration." *Make Use Of*, October 24, 2017. <https://www.makeuseof.com/tag/google-teamwork-tools/>.
- Meulenbroeks, Cees. 1998. "Creating a Competitive Advantage through Quality." *Creativity & Innovation Management* 7, no. 3 (September): 148-158. <https://doi.org/1111/1467-8691.00103>.
- Ro, Sam. 2015. "Labor accounts for 60% of corporate expenses, and it's only getting more expensive." *Business Insider*, December 15, 2015. <https://www.businessinsider.com/citi-levkovich-rising-labor-costs-pressure-profit-margins-sp600-2016-2015-12>.
- Ross, Jeanne W., Peter Weill, and David C. Robertson. 2006. *Enterprise Architecture As Strategy*. Boston: Harvard Business Review Press. Kindle Edition.
- Sabio. n.d. "5 Undeniable Benefits of Microsoft SharePoint for Small Businesses." Accessed November 9, 2019. <http://www.sabioit.com/2018/09/28/5-undeniable-benefits-microsoft-sharepoint-small-businesses/>.
- Singh, Robin. 2018. "Best Knowledge Management Software for 2018." *MAQTOOB*, January 17, 2018. <https://entrepreneurs.maqtoob.com/best-knowledge-management-software-for-2018-900755180373>.

Stoica, Marian, Bogdan Ghilic-micu, Marinela Mircea, and Cristian Uscatu. 2016. "Analyzing Agile Development - from Waterfall Style to Scrumban." *Informatica Economica* 20, no. 4 (December): 5-14. <https://doi.org/10.12948/issn14531305/20.4.2016.01>.

Wysocky, Ken. 2018. "THE CASE for continuing education: Ongoing professional development is critical to reducing turnover, improving succession planning and employee engagement-and bringing in vital new business." *On Balance* 14, no. 4 (September/October): 14-17. <https://eds-a-ebSCOhost-com.du.idm.oclc.org/ehost/detail/detail?vid=0&sid=a8818836-5646-4e29-a154-9390f590836c%40sdc-v-sessmgr01&bdata=JnNpdGU9ZWZWhvc3QtbGl2ZSszY29wZT1zaXRI#AN=133229535&db=bth>.