Dominican University

Alumni Data Enhancement Project:

Final Report

Gerald McLaughlin, Emeritus, DePaul University
Josetta McLaughlin, Emerita, Roosevelt University

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EXECUTIVE SUMMARY[1]

Background

In 2014, the President of Dominican University formed the Bridge to Career Task Force. The charge to the Task Force was "*to create a comprehensive, integrated, and deliberate map of how the University can move from producing well-rounded graduates to producing well-rounded* ***work-ready*** *graduates*." The Task Force called for a "cultural shift" in the way the university organized the education provided to students but not a paradigm shift in the vision that guides and governs a Dominican education. To build and maintain the Bridge to Career initiative, the Task Force suggested a university-wide career-readiness effort that includes expanding and upgrading the alumni database.

This document contains information related to adequacy of alumni data in supporting the goal of creating career-ready graduates at Dominican University. Our charge is to explore issues impacting the university's ability to gather, analyze, and access alumni outcomes data that support the university-wide effort. Additional information is provided on the need for alumni data to support other university endeavors. The following are observations relevant to our recommendations. The observations are not ordered by priority. The primary sources for these observations come from interviews, the Bridge to Career Task Force Final Report, and from practitioner articles and documents.

Observations

- Dominican University is located in a very competitive market place for students and resources. Examination of websites of several area universities confirms that, as noted by the Bridge to Career Task Force, other competitors appear to be more advanced in their use of the web to engage alumni. This engagement includes both maintaining current information on alumni (e.g., contact and employment information) and providing services to alumni (i.e., networking, career services).
- There is a consensus throughout Dominican University that alumni and employment outcomes are becoming increasingly important to managing the university at all levels and to meeting the goals associated with the Bridge to Career initiative. The belief that improvements should be made to alumni data is widely held.
- There is uncertainty around questions concerning how data on alumni and employment outcomes should be collected and maintained, but this is overshadowed by concerns about limitations with the current system. Users want access to data that are searchable and available in real-time.
- Some users of alumni data are not well-served by current practices used to collect, maintain, and disseminate alumni and employment outcomes data; this appears to be a symptom of several underlying problems. First, the data are maintained in siloes with no data governing

[1] This is comprised of extracts and edited wording from the full report. We would like to express our appreciation to President Carroll, Provost Breese, and the faculty and staff who shared their insights and comments. We would particularly like to thank Elizabeth Silk and Paul Simpson who coordinated our visit and Elizabeth Nichin who arranged the logistics.

policies in place to support users, and second, there is a real, not imagined, need for data on employment outcomes.

- The development of specific-use databases to support college/program management is not uncommon, though it is sometimes a controversial topic. Arguments are that their presence potentially leads to inconsistencies in reporting due to differences in official versus non-official university numbers. Regardless, there is a strategic need for ongoing alumni data to support academic planning and development.
- Functions within Dominican University have chosen reputable software products to manage their alumni data. Not all capabilities of these products have been purchased and utilized due to cost considerations.

Recommendations

Recommendations are separated into two categories – 1) governance of alumni data and 2) the context in which alumni data can be of value to Dominican University. The rationale for the recommendations are articulated in this summary and in the body of the report. Additional details including possible steps for implementation are specified in the body of the report.

Recommendations involving Alumni Data Governance

Data governance is essential if Dominican University wants to create a sustainable process where alumni data are a valuable resource for the University. The following are based on a standard data management model and are intended to create a governance process for alumni data. They do not appear to require substantial investments in staffing or additional funding, although if those resources are provided, progress can be made more rapidly.

Recommendation 1: Create an Alumni Data Governance Group

Rationale. In a recent EDUCAUSE article, Mike Chapple[2] builds the case for establishing a workgroup to develop data policies and procedures and to identify other key parts of data governance (e.g., a data element dictionary, a data flow diagram). The focus of this workgroup -- which we refer to as the Alumni Data Governance Group -- is to develop governance policies that support user access to timely and sufficient data that are protected with appropriate security.

Recommendation 2: Create a Structured Conversation about Alumni Data

Rationale. There is a vibrant discussion around access to alumni data, in part growing out of the work done on the Bridge to Career initiative and the substantial efforts by Dominican University to achieve professional accreditations. Though some comments are made out of frustration with the lack of a quick solution for gathering and disseminating needed data, the collegiality shown among parties to the discussion is commendable. We believe that the real problem is that discussions are not yet adequately structured around a more concrete statement of the purpose for enhancing alumni data.

[2] Chapple, M. (2013, Nov/Dec). Speaking the same language, Building a data governance program for institutional impact. EDUCAUSE Review: 14-27.

Recommendation 3: Select Alumni Data Management Model

Rationale. Although it will take time to select the appropriate model, the discussion about what type of alumni data management model/infrastructure to use should begin immediately. This will actually be a continuation of the discussion articulated in the Bridge to Career Final Report. With respect to data and assessment, the task force noted that

> a key theme across all of these areas is the collection and thoughtful analysis of a lot of data—data on available resources, data on outcomes from experiential learning, data on alumni experiences, data on local employers and their needs, etc. Moreover, these data sources are made available to a variety of stakeholders… While we could not inspect the IT infrastructure required to support these efforts, it was clear that they are well organized and succeed largely because these schools are tracking the right information and getting it into the right hands at the right time. (What's Working, What's Missing, p. 7).

Responding to the task force observations about "tracking the right information and getting it into the right hands at the right time" requires a concerted effort to identify the types of data management infrastructures that are available.

Recommendation 4: Identify Alumni Data Steward(s)

Rationale. While an IT group may be essential in providing technology, support, platforms, and infrastructure, the responsibility for rules and standards governing the data lie with the university. The data steward acts on the university's behalf by taking responsibility for overseeing security and the integrity of the database and its data.

Recommendation 5: Select Alumni Data Elements and Create a Data Element Dictionary

Rationale. The Organization for Economic Co-operation and Development (OECD) defines a data element as "a unit of data for which the definition, identification, representation, and permissible values are specified by means of a set of attributes."[3] Not all alumni data elements and their associated career and work activities are of importance or interest to all key users in the University community. The Alumni Data Governance Group will need to oversee selection of those elements that are important and which need to be maintained as standards for the level of University data. Other databases will need to select those data elements that are consistent with the purpose for which the data are being collected, maintained, and disseminated.

Recommendation 6. Create an Interface for Self-Report Alumni Data

Rationale. Though we are not aware of components advocating for "an interface that permits self-report alumni data" in any data management model, we believe that this category is too important to note as an afterthought. A quick internet search of alumni websites provides compelling evidence that website portals are going to become a primary source of alumni data. Though it is not the intention of this report to identify best practices for alumni of websites, we have concluded that the alumni websites are essential for collecting quality alumni data.

[3] https://stats.oecd.org/glossary/detail.asp?ID=538

Recommendation 7. Develop and Implement Training Program on Use of Alumni Data

> **Rationale.** Users of alumni and employment outcomes data should understand the nature of the data and its appropriate uses as well as the capabilities of the software. In addition, users should be aware of all security issues associated with extraction and use of student and alumni data for public purposes.

Recommendation 8. Evaluate and Adjust Policies and Procedures

> **Rationale.** No implementation plan is perfect. It will be necessary to evaluate and adjust processes as the university goes forward in implementing its alumni data initiatives.

Contextual Recommendations

Contextual recommendations are a list of actions that will enhance data quality and support the Bridge to Career initiative. While the recommended actions are not dependent on building a data governance process for alumni data, we believe that these actions will be more sustainable over the long-term if supported by a purposeful data governance structure.

Contextual Recommendation 1. Build a database capability in Career Development that gives it a data management capability.

> **Rationale**. The current College Central Network system that services students, alumni, and employers appears to meet many of the needs of the career services function. Information available through this system is readily available and can be useful in meeting the Bridge to Career goals. However, the system does not appear to function as a database that supports management and analysis systems. Furthermore, alumni data located in other parts of the University do not appear to be readily available to Career Services. Building database capability that addresses this problem could be a starting point for linking together the data from academic programs with data from career and work-related activities of current students and alumni. This will require assigning personnel with the appropriate data and database skills to Career Development.

Contextual Recommendation 2. Revise the alumni survey to mirror NACE principles and standards with supplemental sections that support learning outcomes assessment separate from contact data.

> **Rationale.** Not all alumni data have to be collected using a single alumni survey. For example, a more traditional and extensive alumni survey can be divided into two different alumni surveys with neither survey taking longer than 10 to 15 minutes to complete. One survey can focus on collection of contact and employment-related information while the other addresses questions of student readiness. Dominican University is already a member of NACE and has participated in various NACE activities.

Contextual Recommendation 3. Facilitate and standardize the input format on updated career information that is/are provided by faculty and academic programs.

> **Rationale.** There should be a standardized methodology by which academic programs and activities can feed updated directory information into the alumni database. This could be done

by defining a standard set of attributes that a program should collect and then providing an ETL type tool with the ability to connect the different data bases.

Contextual Recommendation 4. Review software options and their capabilities on an on-going basis.

Rationale. Systematic reviews of software can address the concerns of internal users of data and educate them about the technology available. Investigation should include contacting individuals at institutions that are actually using a specific module or software.

Contextual Recommendation 5. Engage students in developing their own alumna/I record.

Rationale. While providing a list of university graduates from the Registrar's student records database is adequate for populating a database of alumni in the short-run, having students work with alumni programs to develop their own alumni record engages the students over a longer term and provides a mechanism for encouraging them to update their records.

Contextual Recommendation 6: Leverage social media tools, such as LinkedIn, by training academic programs on how to use its analytic and search capability.

Rationale. Some of the academic programs seem to be making extensive use of social media such as LinkedIn. The University should build on this and other social media technology methodologies by training personnel how to effectively use social media tools.

Contextual Recommendation 7: Continue to emphasize and update the coordination process for conducting alumni surveys.

Rationale. Institutional Research has already begun a discussion with individuals from the various groups who survey alumni. To facilitate these discussions, users of alumni data should meet and work with Institutional Research to inform themselves about current surveys being sent to alumni, basic University survey policies, and calendars for administering surveys.

Contextual Recommendation 8: Create a standard University extract of alumni data with directory information.

Rationale. Efficient systems are more cost effective over time and generally less labor intensive. Make an alumni data extract available to appropriate University users so that they can run their own lists. Create a university policy concerning the use of this tool.

Contextual Recommendations 9: Investigate collaborative strategies for keeping alumni directories up-to-date and for engaging alumni.

Rationale. A collaborative process for keeping alumni directories up-to-date is more likely to succeed than the more traditional strategies. Bringing all users of alumni data to the table in a systematic fashion to identify best practices for developing and maintaining alumni directories and encouraging alumni engagement would be beneficial. Furthermore, the collaborative process is consistent with current practices at Dominican University. Broadening these conversations to share and document information on strategies that are currently being used to collect alumni data by various activity and program areas within Dominican University could then be evaluated through examination of practices at other institutions.

Dominican University Alumni Data Enhancement Project

1 PROJECT PURPOSE

In 2014, the President of Dominican University formed the Bridge to Career Task Force. The charge to the Task Force was "*to create a comprehensive, integrated, and deliberate map of how the University can move from producing well-rounded graduates to producing well-rounded* ***work-ready*** *graduates*." The Task Force called for a "cultural shift" in the way the university organized the education provided to students but not a paradigm shift in the vision that guides and governs a Dominican education. To build and maintain the Bridge to Career initiative, the Task Force suggested a university-wide career-readiness effort that includes expanding and upgrading the alumni database.

This document contains information related to adequacy of alumni data in supporting the goal of creating career-ready graduates at Dominican University. Our charge is to explore issues impacting the university's ability to gather, analyze, and access alumni outcomes data that support the university-wide effort. The deliverables for the project include a review of current alumni data and institutional resources, a summary of the existing needs of key internal stakeholder for alumni data, a review of best practices in the use and collection of alumni outcomes data, and identification of one or more solutions for the team to consider. We will begin by describing the external and internal factors that are impacting discussions at Dominican University. Much of the information will be familiar and similar to that gathered by the Bridge to Career Task Force but is included to create a shared understanding of the issues faced in working with alumni and employment outcomes data.

We first examine the context within which Dominican University and other colleges and universities in the United States are reevaluating the need for and management of alumni data. This will be followed by observations concerning Dominican University's access to alumni data and institutional resources. Information obtained during interviews is confidential and will be discussed as themes and/or trends. The content of this report or subsequent reports will not be used for any purpose other than to fulfill aforementioned obligations under this memorandum of agreement.

2 WHAT IS DRIVING THE NEED FOR DATA ON ALUMNI?

As part of the recommendations concerning providing a framework for organizing and monitoring student career development, the Bridge to Career Task Force recommended establishing a network of personal contact beyond Dominican University to help students before and after graduating better understand and define their career aspirations. This included activating and expanding "our Dominican network of Alumni, Parents and Friends" to provide, among other things, students with role models. The task force also addressed issues around collecting and disseminating information for the purpose of building and maintaining the Bridge to Career initiative and maintaining a connection with alumni by expanding and upgrading the alumni database. They noted the need to expand the alumni database and to update records of employment history, connect the information back to other university efforts, and connect the alumni database to assessment efforts. To establish and maintain the institutional infrastructure to support the Bridge to Career network, the Task Force recommended that the overall responsibility should be assumed by a particular position, such as Executive Director of the Academic Enrichment Center, and that a position be added to this center for managing employer relations – which

includes the development of a database to support that initiative. This initiative (the hiring of an employer relations specialist or the database) has not been approved, the rationale being that the university is now seeking to rebound from economic crises that are impacting management of the institution.

Based on information from our on-site interviews and other research, we believe that the Bridge to Career Task Force identified relevant issues surrounding alumni and employment data and while doing so opened the window to a problem at Dominican University, the solution to which has not been fully vetted nor is it fully understood. We will refer to this as "the data flow problem". The data flow problem refers to the need for data to flow more efficiently and effectively beyond traditional uses of alumni data to users who need access to data on an on-going basis. The need to enhance alumni data extends beyond questions being raised about how to use alumni data to support the Bridges to Career initiative. The data problem is not unique to Dominican University. Attendance by vendors who are offering services for collection of alumni data at conferences (such as the Association of Institutional Research 2016 Forum) increases each year with new vendors and services appearing annually. Other associations representing functions that deal with employment outcomes for alumni are now offering services to support their members' needs for alumni and employment outcomes data. Many universities are seeking vendor assistance in addressing the need for reliable and comprehensive alumni and employment outcomes data as they are also adjusting their strategies to cope with environmental complexities associated with changing expectancies from external stakeholders, resource scarcity, and increasing competition. The long-held management dictum that when strategy changes, the structure and processes that support success must also change rings true in this instance. This change in structure (or infrastructure) requires that the policy-making bodies be convinced that this path to a new alumni awareness is necessary.

At Dominican University, it appears that the key internal stakeholders, possibly including the Board of Trustees, may not be fully attuned to the needed changes and not yet fully convinced of the importance of allocating resources toward the emerging need for alumni data in management of the institution. We would argue that the case first needs to be made that attention to alumni data, how it is collected, managed, and disseminated needs to be more fully developed and better explained to all internal stakeholders. This requires a broadly-based discussion about management of alumni data that goes beyond the Bridge to Career initiative to discuss on-going, long-term data needs of the administrative and academic sides of Dominican University.

The evidence for creating a longitudinal alumni database is compelling. Alumni data are clearly needed at multiple levels of Dominican University for a broad range of purposes – from building a brand at both the academic program and university levels to curriculum alignment in the classroom to fundraising and development. Discussions around use of alumni data at Dominican University are thus strategic in that access to the right data at the right time by appropriate internal stakeholders has implications for the institution's future management and well-being. Not only are alumni data used to support the goals and aspirations of the university by administrators, they are required by the academic side for purposes such as ongoing accreditation of programs. Discussions about these needs are beneficial aside from the availability or lack of resources. But there is a downside. Efforts to identify what data are needed, who should be the guardian of the data, and who should have access to the data will create tensions in the university, due in large part to the realization that current needs extend beyond traditional uses of alumni data. For example, ongoing availability to longitudinal data on alumni employment outcomes is becoming an imperative by colleges where professional accreditation requires on-going monitoring of

outcomes, curricular alignment, and other processes consistent with mission. Similarly, institutional support functions that support user needs ranging from university to program level needs (e.g., career services, alumni services, marketing) require on-going evaluation and review of data that enable them to successfully fulfill their duties. We believe that modifications in the way alumni data are traditionally managed by the university will be required. The discussions about alumni data have already generated discussions and associated tensions, but like the data flow problem, these tensions are not unique to Dominican University. They are occurring at higher education institutions across the U.S., and like most institutions in Illinois, the discussions at Dominican University are taking place at a time when resources, both monetary and human, are scarce. Nevertheless, the forces driving the need to gather, analyze, and provide access to alumni outcomes data are strong and are not likely to decrease. In Dominican University's case, these forces are intricately linked to the manner in which Dominican University supports current and future accreditation standards and meets goals associated not only with creating career-ready graduates but also with goals for managing university programs in a highly competitive urban marketplace.

Forces that are relevant to institutional discussions about wider access to alumni data by academic and support personnel are also political in nature. Of particular interest are the increasing demands from politicians, data mandates from federal and state agencies, and inquiries from parents and students about higher education accountability. The nature of the metrics that institutions should use to respond to questions about accountability and the specific outcomes, including return on investment (ROI), are a matter of public and political debate. However, early mandates for information on student success rates (as defined by retention and graduation rates) are being expanded to include additional measures, many of which require collection and use of employment data. Transparency of these debates around accountability has also created an expectation among parents and students that administrators, regardless of their position at the institution, will have immediate answers to their questions based on real-time access to information on student outcomes, including employment. These parents and students represent the emergence of a new generation of students (and alumni) that live in a technology-enhanced connected society where information is readily available, and they assume that access to information is a right that should be respected. The Federal government has in fact advocated for the right of students to access employment information. It is indisputable that answers to the questions require access to data on employment outcomes of alumni, and the federal government expects answers to these questions to be based on reliable and valid data.

The new needs and opportunities around alumni data are departing to an extent from the traditional limited uses of alumni data by colleges and universities. For example, in many institutions, alumni data were traditionally managed solely by an alumni function that was usually associated with university advancement. This system worked reasonably well in the past. However, even then, the various uses of alumni data were not independent nor were they established in a linear sequence. (See Table 1 for a list of traditional uses of alumni data.) Data that supplied one need became, over time, important to meeting multiple additional needs. For example, the data that supported federal reporting might also support state requirements and accreditation requirements. As a result, alumni data became more broadly dispersed throughout some institution through career services and program-level support services. However, the alumni data populating the centralized alumni database continued in many institutions to be restricted and available only upon written request.

Table 1: List of Traditional Uses of Alumni Data
1) Reporting Requirements
a) Meeting legal, federal and state reporting requirements
b) Meeting accreditation requirements
2) Student Support
a) Supporting student decision-making about choice of majors and career paths
b) Maintaining currency and focus of academic programs
c) Supporting research to enhance student success
3) University Support
a) Supporting university development and advancement
b) Validating the university brand to prospective students and their parents
c) Supporting research to improve administrative effectiveness and efficiency
4) Alumni Support
a) Building an Alumni Community of Practice with lifelong learning
b) Creating incentives for alumni to maintain the currency and completeness of their own data.
5) Program Support
a) Providing lists of alumni for use by colleges and programs
b) Providing employment data when available
c) Providing information for grant writing when available

The data flow problem at Dominican University extends beyond the mere use of those alumni data maintained in a dedicated alumni database by shifting the focus from management of data that is feed into and out of a database to how these data are disseminated to other parties in the university in a timely and efficient manner. There is an urgency associated with the ability to access the right data in a timely manner. While functional areas like alumni affairs and increasingly career services have provided alumni and employment data for many years, forces beyond their control are changing the landscape. Examples of four forces creating this urgency for quality alumni data at Dominican University are identified and briefly discussed below.

Federal and State Reporting. Data reporting requirements at the federal level were initiated following passage of the Higher Education Act of 1965 and applied to any institution participating in federal student financial aid programs. Implementation of the legislation led eventually to creation of the IPEDS system for tracking information on U.S. schools and colleges. This has resulted in creation of a database populated with more than 40 years of *institutional-level data*. Institutional researchers have been critical to the success of this system (which is emulated globally). The data are publically available, used widely by institutions for benchmarking, used by the private sector for ranking institutions, and are intended to provide information to students and parents. Institutions that post information on a website are in compliance with HEA requirements that certain information be made available to the public. However, the "Department of Education may initiate a fine, or a limitation, suspension, or termination of Title IV HEA eligibility for any substantial misrepresentation made by an institution regarding the nature of its educational program, its financial charges, or the *employability of its graduates*" (NPEC, 2009).

While alumni outcomes data (e.g., employment or continuing studies data) were not originally at the forefront of discussions on consumer information disclosure, changes in the higher education environment, including the increasing costs of education, have turned the attention of policymakers to

information on employment of graduates (i.e., the alumni). For example, The Higher Education Opportunity Act of 2008 (HEOA) identifies additional obligations for "covered" institutions to disclose information about gainful employment. Institutions that prepare students for gainful employment in a recognized occupation and award them degrees and certificates must make information available regarding the employment obtained by graduates, the source of the placement information, and any time-frames and methodologies associated with the metric. Under this provision, institutions are not required to calculate placement rates, but an institution must disclose any placement rates it calculates for the institution or any program. Similarly, any institution that advertises job placement rates for recruiting students must make available the most recent available data substantiating the truthfulness of the advertisements. Again, this requires access to reliable and valid data. To date, coverage under HEOA is narrowly focused and tends to cover for-profits and certificate programs. However, the possibility of future coverage of programs under this mandate are part of the discussions about whether there is a need for government-supported longitudinal student record data, including employment data, that will support reporting needs. Without these data support systems, institutions must collect their own data. While the federal act *forbids* a federal student level longitudinal data system (i.e., student record database), it does encourage states to build such systems under a series of grants.

At the state level, efforts to create longitudinal data systems appear to be subject to the financial health of the state. For example, the state of Illinois has done some work on creating a longitudinal data system. Though not highly visible, the state is continuing to work on the Illinois Longitudinal Data System (ILDS). As part of this initiative, employment records at the individual level will be obtained from the Illinois Department of Employment Security (IDES) and will be merged with the records from the colleges and universities. While there are some issues with the comprehensiveness of the IDES records, colleges hope to get a database that describes the employment aspects of their graduates. There is no guarantee that this will happen. It is our understanding that ILDS records will be collected from private universities in Illinois this summer. If all goes as planned, employment data should be available later this year. The usefulness of the ILDS is yet to be determined.

Programs in education disciplines face especially critical needs for data about employment of their alumni. This is a data problem for all institutions offering teacher training, and it is not going away. In terms of data for graduates who are teaching in public schools in Illinois, individual-level employment data are part of a database maintained by the Illinois State Board of Education (ISBE). [4] Beyond this, education programs will need to find other sources of data on their graduates and their employment outcomes. These data are maintained in the Educator License Information System (ELIS) and the Employment Information System (EIS). As with the ILDS, the usefulness of data that may be available from ISBE is not fully known. What is a certainty is that the need for alumni and employment data by institutions training teachers will continue and will require access to reliable and valid employment data.

Accreditation of Professional Programs. Dominican University has successfully received accreditation from reputable accrediting agencies, including AACSB (Business), NCATE/CAEP (Education), CCNE (Nursing), ALA (Library and Information Science, CSWE (Social Work), and ACEND (Nutrition), all of which require use of alumni data in documenting impact or meeting standards. (See Table 2 for examples of

[4] Though the Illinois Teacher Data Warehouse does not appear to exist at this time, it is our understanding that an institution that provides ISBE with records of their graduates can request and hopefully obtain data on the employment of those who are working at Illinois public elementary and secondary education

selected outcomes standards for three accrediting agencies). The standards that these programs must meet highlight the need for administrators in academic units to respond in an *on-going* manner to requirements of the accrediting agencies. Accreditation agencies are no longer going to award accreditation and then disappear for five or ten years. Managing accreditation at both the university and program levels will require on-going, readily accessible and searchable data about alumni and their employment status by academic units. These requirements are especially critical for the health sciences.

Table 2: Selected Accreditation Standards Requiring Alumni Data		
Professional Association	**Standard/Metric**	
AACSB (Business)	***Impact*** In an environment of increasing accountability, it is important that AACSB accreditation focus on appropriate high-quality inputs (…) and the outcomes of those inputs within the context of the business school's mission and supporting strategies… business schools must document how they are making a difference and having an impact.	***Bachelor's/Master's Level Education Impact (Selected Items)*** Hiring/placement of students Career success of graduates beyond initial placement Placement of students in research-based graduate programs Direct input from organizations that hire graduates regarding preparedness for jobs and their roles in advancing the organization Movement of graduates into positions of leadership in for-profit, non-profit, and professional and service organizations.
CAEP (Education)	***Component 4.3: Satisfaction of Employers*** The provider demonstrates, using measures that result in valid and reliable data and including employment milestones such as promotion and retention, that employers are satisfied with the completers' preparation for their assigned responsibilities in working with P-12 students.	***Component 4.4 Satisfaction of Completers*** The provider demonstrates, using measures that result in valid and reliable data, that program completers perceive their preparation as relevant to the responsibilities they confront on the job, and that the preparation was effective.
CCNE (Nursing)	***IV-D. Employment rates demonstrate program effectiveness.*** The program demonstrates achievement of required outcomes regarding employment rates. The employment rate is collected separately for each degree program… and post-graduate APRN certificate program. Data are collected within 12 months of program completion. For example, employment data may be collected at the time of program completion or at any time within 12 months of program completion.	***IV-E. Program outcomes demonstrate program effectiveness.*** The program demonstrates achievement of outcomes other than those related to completion rates…, licensure and certification pass rates…, and employment rates…; and those related to faculty…. Program outcomes are defined by the program and incorporate expected levels of achievement. Program outcomes …may include (but are not limited to) student learning outcomes; student and alumni achievement; and student, alumni, and employer satisfaction data.

Institutional Effectiveness. Institutional effectiveness involves assessing the outcomes of processes and making data informed changes that increase the value and efficiency of those processes. While alumni data for reporting and accreditation have been discussed, the need for research on alumni attitudes, values, learning outcomes, and reflections on their experiences goes beyond these purposes and is University-wide in its value. This research is also valuable for a number of additional reasons. It associates alumni outcomes and attitudes to campus experiences and to curricular data elements such as major and grade point average. Alumni data are essential as the dependent variable for a wide range of analytical investigations of student outcomes and success. Alumni research is an essential foundation to many successful development campaigns that need to know who gives and why they give. Analyses of timely alumni data can support program development by focusing discussions around alumni outcomes and supporting more informed student decision-making. While there are groups (including the federal government) collecting data on institutional alumni for making public disclosures and marketing their products,[5] the institution itself is best positioned to collect their own data and use them as appropriate to demonstrate institutional effectiveness.

The role of institutional research (IR) in support and administering of alumni studies that support institutional effectiveness is well-documented. In a recent study, Volkwein (2011) reported a number of interesting findings. Over half of IR offices at U.S. colleges and universities are conducting alumni studies. Student and alumni accomplishments are major outcomes measures for Institutional Effectiveness. Alumni Giving is frequently a dashboard metric as are measures of alumni satisfaction. Student and alumni satisfaction are key components in determining excellence in the "Client Centered" model of university operations. Feedback from alumni is one of the most common sources of evidence for assessing student learning. Using self-reports from alumni is now a wide-spread way to discuss differences in groups of individuals. Volkwein reports that "Student and alumni self-reports of their engagement, learning gains, and satisfaction are the most common means of collecting institution-level evidence [of student learning]…"

Marketing and Branding. In an environment of increasing competition among institutions, perceptions of institutional branding as detracting from the academic mission have been replaced by perceptions of branding as required to take an institution to where it wants to go – fulfill its mission, attract students, and hire the right faculty and staff. Branding is serious strategic business, and it requires that alumni data be available to appropriate personnel that are intimately engaged in supporting the branding process. The ways in which alumni play a role in building an institution's brand are reflective of information posted on college and university websites from across the United States. General consensus from websites appears to be that alumni support the success of the institution through a variety of mechanisms, including acting as a spokesperson for the institution, recommending the university and various programs to students, providing internships for current students, volunteering to mentor students, helping with fundraising, and in the long term, building the institution's legacy. These value-added activities occur at various levels of the university, thus requiring that the institution create multiple mechanisms for engaging alumni in the life of the institution. The evidence suggests that institutions are responding to the belief that branding is important and that alumni are critical to the branding process by building new models for engaging alumni in the life of the institutional community

[5] See for example, https://www.alumnifactor.com/leadership , https://colleges.niche.com/dominican-university/, http://www.brookings.edu/~/media/Research/Files/Reports/2015/04/29-college-value-add/BMPP_CollegeValueAdded.pdf?la=en),

before they graduate and hopefully keeping them engaged after graduation. These models define alumni engagement as one part of the business of the institution as a whole with the lives of its students, parents, alumni, faculty, and staff intimately tied to the well-being of the institution. Both administrative and academic functions supporting alumni engagement and branding need access to the appropriate information on a timely basis.

3 What Are Best Practices for Collection and Dissemination of Alumni Data?

There is surprisingly little information on best practices in collection and dissemination of alumni data. We could find no *definitive* publicly available documents that present this information though there may be internal, non-public documentation. Given this gap in the literature, we will provide an overview of activities that may help set the stage for developing usable standards and protocols. We identify several associations that work with institutions on collection of alumni employment outcomes and that are visible due to their presence at association meetings. We provide a list a set of generally accepted standards that are used to evaluate integrity of the data. This is followed by observations about alumni portals and websites.

Associations. As noted earlier, vendors of higher education services that support collection of alumni or employment outcomes data are increasingly visible at many association meetings. They generally reference their product offerings to support protocols developed by associations or organizations that have emerged as preeminent in the discussion of employment of college educated individuals (i.e., employment data, placement date). These organizations include, but are not limited to, the Higher Education Data Sharing (HEDS) Consortium and the National Association of Colleges and Employers (NACE). Other organizations that traditionally focus primarily on student data and reporting or other data services are now in discussion about extending their services to support alumni/graduate data reporting.[6] For example, National Student Clearinghouse (NSC) representatives acknowledge discussion of employment data as a future service. It is already providing services to those "covered" institutions required to submit gainful employment data to the federal government. (For information, see http://www.studentclearinghouse.org/colleges/gainful_employment.php#sthash.xs9tmRPS.dpuf. It is our understanding that Dominican University uses some of the student data and reporting services available through NSC such as Student Tracker.)

HEDS, a consortium of private colleges and universities, supports use of data to advance liberal education at private colleges and universities. It has designed surveys that collect alumni data – the HEDS Alumni Survey and the HEDS First Destination Survey. The first survey takes no more than 15 minutes and focuses on the quality and impact of undergraduate educational experiences. The second takes no more than 5 minutes and focuses on first activities (e.g., first job, graduate school) following graduation. These initiatives provide information on the most recent graduates. Examples of reporting employment outcomes using of HEDS services are found on the website for St. Olaf College at http://wp.stolaf.edu/outcomes/employment-outcomes/. Outcomes for their First Destination Data on

[6] Discussions with vendors at the 2016 AIR Forum in New Orleans, June 2016.

Recent Graduates are found at http://wp.stolaf.edu/outcomes/employment-outcomes/ . Dominican University does not appear to be a member of HEDS but does have memberships in NACE.

NACE, the National Association of Colleges and Employers, states its mission as "to lead the community of professionals focused on the employment of the college educated by providing access to relevant knowledge, resources, insight, and relationships." It connects and provides networks for career services professionals and colleges and universities. Career Development at Dominican University considers NACE to be their best resource for data. It has used the Job Outlook Survey and the Career Services Benchmark Survey. Career Development can lend a valuable voice to discussions about collecting data on alumni and employment outcomes, especially given the support services being offered by NACE.

Noting the increasing interest in employment- and career-related outcomes for college graduates, NACE has recommended initial minimum standards and protocols for collecting data and evaluating employment outcomes of graduates. Initial efforts focus on the first-destination career activities of two groups – those completing the undergraduate degree and for advanced degree candidates.

The Standards and Protocols are divided into six categories:

1) Defining the graduating class;
2) Targeted knowledge rates;
3) Career outcomes reporting categories;
4) Career outcomes rate;
5) Timeline for summary data collection and reporting; and
6) Further assessments.

The Association's statement of Guiding Principles and an overview of the standards and protocols are available at http://www.naceweb.org/principles/ . Their principles are reproduced in Appendix B. The Standards and Protocols documents, sample surveys, and sample spreadsheets are available at http://www.naceweb.org/knowledge/assessment/first-destination-survey-standards.aspx .

Data Integrity. NACE standards and protocols for collection and dissemination of information identify categories of variables but do not address best practices in evaluating data integrity. A recommended set of standards for evaluating alumni data and information integrity are presented in this section with the acknowledgement that all types of data should be evaluated using these standards on an ongoing basis. For example, if the alumni database is populated by data from a Registrar's Office immediately following graduation, this information would be considered accurate, reliable, and valid for that time period. However, problems of completeness emerge over time, especially when updates are sought for graduates. Similarly, given the changing needs of users (e.g., federal mandates, accreditations, branding, curricular alignment), the data may over time lack sufficiency, relevance, and timeliness. Furthermore, questions surrounding data source can arise when different parts of the university are using different sources for data and information. The standards noted in Table 3 can be used as a checklist. To meet standards of integrity, input should be sought from all relevant users of that data.

Table 3: Generally Accepted Standards for Data and Information Integrity (GASDI)		
Standard		**Definition**
Raw data	Accuracy	Do the data have an allowable value (i.e., between a logical higher and lower value, to knowledgeable individuals) for the situation that is reasonable?
	Reliability	Are the data stable over time, consistent for related attributes (e.g., consistent data definitions), and objective and capable of producing the same conclusion by various users?
	Validity	Do the data do what they are intended to do through measurements that can be properly interpreted and generalized and that can produce an understanding of the constructs underlying the construct of interest?
	Completeness	Are observations available for the necessary points (i.e., not missing)?
Data sets	Sufficiency	Is the data set comprehensive in scope, containing all variables needed for the stated purpose?
	Relevancy	Does the data set incorporate those data critical to the intent of and use for the task while remaining free of extraneous variables that are not related to the intent of the task?
	Timeliness	Does the data set contain current data representing a point in time that is useful for the stated purpose?
	Generalizability	Does the data set contain observations on elements and situations like those of interest?
Data source	Authority	Are the data made available through an organization, agency, or individual that is recognized as an expert in the field or is known to be knowledgeable, qualified, and reliable with respect to the stated purpose?
	Verifiable	Are the data values replicable, reproducible, and comparable?
	Interpretable	Are the data accompanied by stated methods for computing and imputation of values?
	Accessibility	Can the data be accessed easily and efficiently with sufficient documentation for determining the usability of the data for the stated purpose?
Modified from McLaughlin, J.S., McLaughlin, G.W., and Pavelka, D. (2005). Assessing the integrity of web sites providing data and information on corporate behavior. *JEB, 80* (6): 333-337.		

Portals and Websites. Though it is not the purpose or focus of this report to identify best practices for alumni websites, we are including a brief discussion of websites in this section for a number of reasons. First, it appears that alumni websites are becoming an essential tool for collecting quality alumni data. As such, websites (and their associated alumni directories and communities) may represent a best practice in collection and updating of alumni data. Second, alumni websites provide a mechanism for engaging the alumni. This engagement is being used strategically for maintaining an updated directory of alumni contact information and also updated information on alumni careers and activities. Third, alumni websites provide a mechanism for communicating with alumni about information concerning current university events, activities, and concerns. Finally, they provide a mechanism for creating a learning community where alumni interact with other colleagues and when appropriate, with students and prospective students.

Because we believe that a well-designed website is becoming critical to collection of quality alumni data, our intent here is to recognize an important capability of such sites – to create a restricted space for

collection of alumni data. A 2014 article on alumni portals contains a comprehensive discussion based on review of a large number of alumni websites (Teixerira and Maccari, 2014) in which the authors point out that the alumni portal has two different areas -- a public area and a restricted area. A more comprehensive description and illustrations for the two areas and the content they are likely to contain are found in Appendix A. Restricted sites are generally available only to the institution's graduates; they require a login and password.

One of the major uses for the restricted areas of many alumni websites is to provide a directory for alumni. This directory supports a "community" by facilitating individuals' abilities to identify and connect like-minded individuals. The issue when developing a directory is the degree of complexity desired. Is it simply a place to look-up individuals based on their last name or is it equipped with the ability to search for alumni with specific characteristics (e.g., live in Chicago, work for Cook County, are a president or Vice President, etc.)? The restricted sites housing the alumni directory are designed by most institutions to collect updated information from graduates such as contact information, employment information, and life change events. Examples of websites for two Chicago-area institutions that provide their alumni with directories are found in Appendix A. Both websites require membership with logons and passwords. Dominican University has restricted access to social media sites but has not placed an alumni directory in a restricted space on its alumni websites.

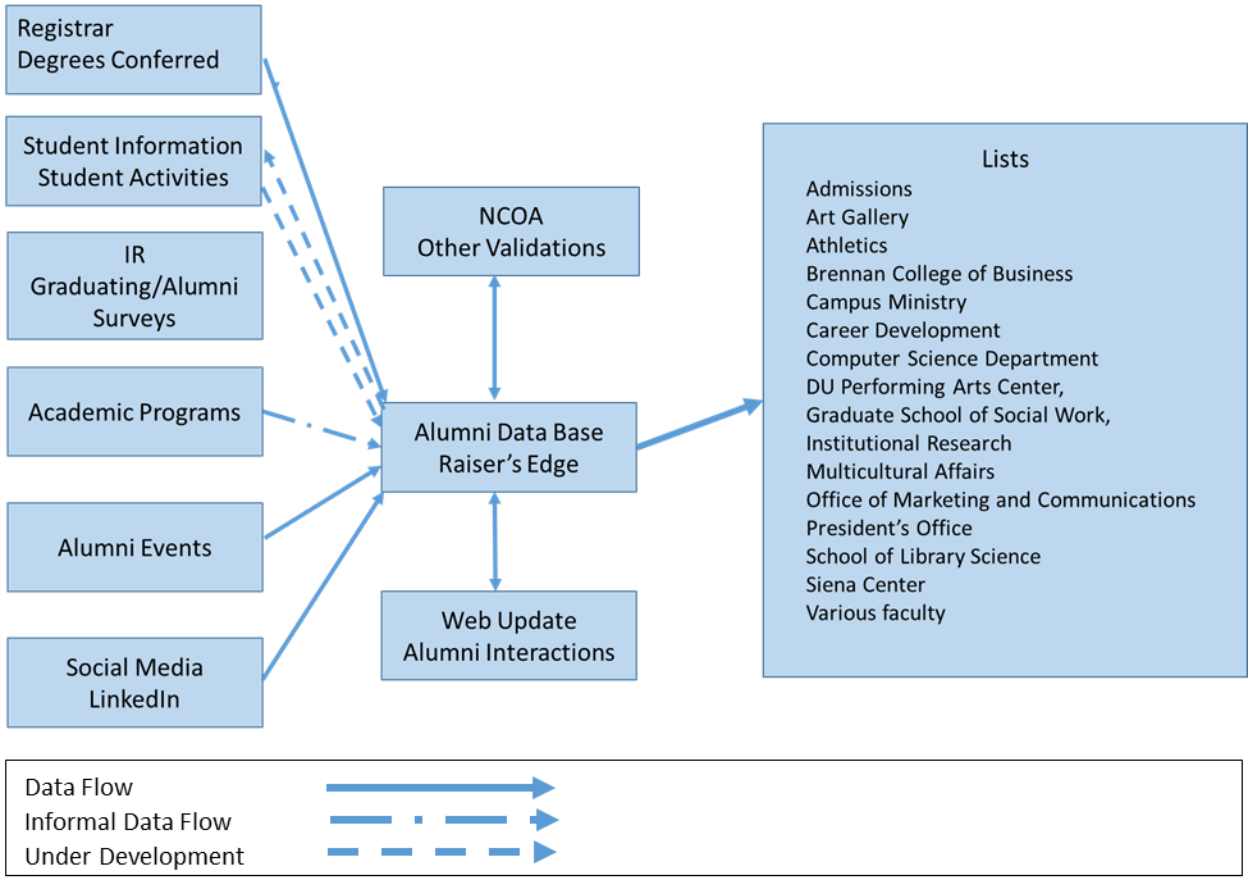
4 What Is the Current Status of Alumni Data at Dominican University?

University Advancement is currently the primary custodian of alumni data at Dominican University. A brief look at this system and other systems used at Dominican University are presented for information purposes for readers unfamiliar with the Alumni Database. Blackbaud Raiser's Edge is the official 'system of record' for these data; it is almost exclusively used by the Office of University Advancement and Alumni Relations, but other functional areas within the university can request that information be provided from this data base. Other functional areas do not appear to have direct access to the data. The basic flow of alumni data as described to us is shown in Figure 1.

Blackbaud's Raiser's Edge is one of a large number of software systems used to manage alumni data and to support fundraising. It is one of the more reputable software products used by development offices. One rating system contains 102 systems that are evaluated based on customer reviews. Raiser's Edge has the second most reviews and one of the higher ratings (87% with 144 reviews). On the moderate cost scale, and for systems with more than 50 reviews, Rasier's Edge is the highest rated. (See http://www.softwareadvice.com/nonprofit/)[7] Beyond Blackbaud, other Constituent Relationship Management (CRM) products in place at Dominican University include, but are not limited to, Salesforce, Jenzabar, and EngageDu. Primary student activities, formerly stored in Jenzabar, are now stored in the EngageDU database housed by the Student Involvement Office. University Advancement imports this data into the Raiser's Edge database after importing the new graduates. It is our understanding that the University uses Salesforce as part of its admissions and recruiting function but not for other purposes.

[7] The largest number of reviews is Salesforce with 1,243 ratings (84% recommended) and the highest recommended that has 50 or more recommendations is Bloomerang with 92% recommendation and 59 comments. However, Bloomerang is identified as more expensive than Raiser's Edge on a general cost scale.

Figure 1: Current Data Flow into Alumni Data Base



NCOA: National Change of Address, US Postal Service
Lists: Requests for Information (Timeframe, Content, and Frequency Unknown.

The University uses Jenzabar as its core CRM, and the extract for Jenzebar for graduating students is fed to the Raiser's Edge by the Registrar using a machine process following the students' graduation. The primary updates of alumni directory information are done by University Advancement using services such as National Change of Address and Peoplefinder (See https://www.searchbug.com/ peoplefinder/ for information on Peoplefinder.). Other data on updates and alumni activities are obtained from research done by University Advancement, through reports from departments, and through searches on social media such as LinkedIn. However, there appear to be no systematic, formatted or machine feeds of updates from other university offices. Data on extended for-credit learning activities such as undergraduate research, internships and study abroad are maintained in the Registrar's Office but are not currently on files fed into University Advancement at the time of a student's graduation.

Additional alumni data are collected and stored in other units on campus -- including the Office of Institutional Research, Career Development, Athletics, and a number of academic units/departments. For the most part, these other data sources, some of which are referred to as shadow databases, are not

automatically integrated into the Blackbaud system. There are many reasons for development of these databases, one of which is that the directory type data from the Blackbaud system, such as lists provided to individuals in the academic program areas, are available only upon request. The data received are generally described as accurate at a point in time but in some instances incomplete. General consensus appears to be that use of the alumni Web interface to include an alumni directory would be helpful. The primary barrier to development of the alumni directory appears to be expense.

As noted above, Dominican University's alumni data are currently captured using multiple methods. Of the strategies noted in Table 4, the Registrar's data extract provides the full report of degrees conferred; it would not include any individual who attended but did not receive a degree. Web surveys administered by Institutional Research provide additional information on a systematic basis for alumni who respond to the survey. The Alumni Survey, developed with faculty input, collects current directory information (question 70). Alumni responding are entered into a random drawing for a prize. Current e-mail and telephone number preferences are collected on the graduating student survey (question 59). It appears that there is no direct file fed to the Alumni database from the Alumni Survey; however, the data are available to and used by various functions across campus. Source points for data collection and data flows for alumni data are shown in Table 4 and Figure 1.

Table 4: Data Collection Strategies

1) **Registrar's Data Extract**
   a) Data extract of degrees conferred to graduating students by semester.
2) **Alumni Self-Report**
   a) Updates provided by alumni through the alumni web portal or provided at various university functions attended by alumni
3) **Web Surveys**
   a) Web surveys administered by Institutional Research and/or by various programs or colleges that allow students to update information.
4) **Social Media and Web Search Services.**
   a) Information collected from social media sites
5) **Faculty/Program Capture**
   a) Class-level initiatives used in specific classes by specific faculty using various techniques such as surveys and social media for the purpose of engaging students during their tenure at DU and as alumni.
   b) Data collected by the academic programs that may include contact information about their alumni (frequently provided by University Advancement). Primary uses of these data include invitations to alumni to return to campus and participate in discipline-based programs (internships, career development), to mentor students, and to provide contacts for employment opportunities.

Alumni data are also captured using social media. The most popular social media sites used by US colleges and universities appear to be LinkedIn, Twitter, and Facebook. Dominican University has a web presence on Facebook and LinkedIn with restricted access. Updates on alumni are obtained from these sites and are posted to the databases by University Advancement personnel, Career Services, and other units within the university. As noted, University Advancement also uses web searches such as Peoplefinder and National Change of Address (U.S.Postal Service) to get updates for the directory information. LinkedIn appears to be most useful since it is used widely by employers, job seekers, and other universities. Furthermore, it is used by various administrative and academic functions and faculty

to access job information relevant to alumni and current students. Substantial data on job placements are published on Dominican University websites such as Life after Dominican which includes student success stories and the First Job site.

5 What Alumni Database Attributes Do Dominican University Leaders Want?

The purpose of this section is to share – based on our interviews -- the concerns and perspectives of Dominican University's key academic and administrative staff about alumni data. University leaders to whom we spoke were reasonably well-informed about the attributes of the current alumni database, though some were not fully aware of all services offered. However, interviewees at all levels of Dominican University were concerned about the ability to access the alumni data in a timely manner for uses not traditionally supported by the university alumni database (e.g., to support student engagement programs, career development, co-curricular programs, and alumni engagement at the program level). With respect to student and parent inquiries, alumni employment data were seen as necessary by both staff and academic personnel who are responding to questions from prospective students that want to anticipate and prepare for careers after graduation. These students (and their parents) are interested in alumni outcomes in order to make more informed choices when selecting the appropriate college or major within an institution. Alumni employment outcomes data were also seen as important to supporting administrator and faculty efforts to market the university or a specific program. There was also agreement among department heads and faculty and acknowledgement by other leaders that information is needed from alumni to better align curriculum with goals of the Bridge to Career initiative.

The following categories represent general themes and the attributes of an alumni database that are considered desirable at Dominican University. They are a compilation of comments from leaders of staff and academic areas across the university. Comments are grouped under five six themes – Security, Accessibility, Timeliness, Consistency, Diversity, and Transparency.

1. **Security.** Leaders at Dominican University want ready access to data with the appropriate policies and procedures in place to provide for data security. Alumni data contain student records which may in some cases be covered under FERPA, particularly for those students who told the University as undergraduates not to share their Directory Data. Some alumni data are sensitive and need to be used only for official university purposes and accessed only by appropriate university personnel. Leaders want clarity on these data security issues.
2. **Accessibility.** Leaders want an internal centralized dashboard with decentralized access. They believe that data should be dynamic rather than static and should be available in real-time when feasible. Leaders want access to the right data at the right time.
3. **Timeliness.** Leaders believe that timeliness matters and that building an effective database requires a fluid system for updates (e.g., employment updates as alumni move from job to job).
4. **Consistency**. Leaders want a more holistic database that has the capability to systematically capture both objective data (such as industry) and subjective data (such as student

satisfaction with DU education or open unstructured data e.g., student stories) on a consistent basis.

5. **Searchable**. Leaders believe that the database should be designed to be searchable and effective, not just efficient. They note that differing needs of diverse users should be served by including data fields in the database that reflect this diversity of need and enable users to search for and download the appropriate data. This should include, for example, longitudinal data on employers and employment outcomes by segment by school.
6. **Transparency.** Leaders want to better understand how the alumni database works, how it is maintained, what policies govern its use, what data are available, and how the database can be improved.

Beyond general themes and attributes, stakeholders identify specific work or career-related purposes for using alumni data. An overview of these purposes is shown in Table 5. It is important to note that *data on alumni work histories and accomplishments* are critical to the purposes for needing alumni data identified by Dominican University leaders at the various levels of concern.

Table 5: Work and Career-related Purposes for Using Alumni Data		
University Level	**Administrative Leaders**	Strategic Planning and Development Institutional Effectiveness Assessment University Branding and Development Institutional Reporting and Compliance
College/School/ Program Level	**Academic Leaders**	Achieving, Reporting, and Maintaining Accreditation Compliance and Reporting Standards Strategic Planning and Development Program Branding and Student Recruitment Alumni Engagement (at program level)
Program/Discipline/ Classroom Level	**Faculty Leaders**	Curricular Alignment Student Learning Outcomes Assessment Classroom Enhancement (e.g., Alumni Guest Speakers) Student Enrichment (e.g., internships, mentors, networking)
Individual Level	**Students**	Learning through Networking with Alumni Learning through Internships and Mentoring Help in Shaping the College Experience Receiving Career Advice

The following sections contain an overview of perspectives expressed during interviews of university leaders from specific areas.

Perspectives from Administrative Offices

As a first priority, administrators at Dominican University want access to alumni data that support and strengthen decision-making that is strategic and that ensures the future well-being of the institution. To support decision making, administrators want access to alumni data in three forms--short stories, contact information, and summary data. The first type, short stories, is unstructured data, often as short

paragraphs about experiences at Dominican University and how the DU experience supported career and life choices after graduation. The second form, contact information, is needed for multiple purposes – from event management to fundraising to focus groups to support of academic programs. The third form, summary statistics, are needed for many purposes ranging from reporting and compliance to planning and development. Summary information should provide percentages for specific outcomes of interest (e.g., being employed, attending graduate school).

As a second priority, administrators want alumni data that support institutional effectiveness decisions. They want the ability to identify alumni from a specific class, pursuing a specific career role, or working in a specific industry. Within these categories, there is interest in what the data reveal about how experiences or events at Dominican University are associated with, or possibly cause, specific outcomes occurring at future dates. They want to know how academic life reflects Dominican values, identity and currency while at the same time anticipating future needs of alumni and whether Dominican University has supported student success in a way that creates successful alumni and life-long learners. With respect to fiscal responsibility, administrators want to use information on alumni to identify decisions that produce a sustainable and financially viable institution within its mission and goals. Administrators want alumni data that are helpful in identifying initiatives that position Dominican University in a highly competitive environment, demonstrate value added by the DU experience, and support decision-making by key stakeholders.

Key Dominican University administration functions that rely heavily on alumni data are those with responsibility to manage the alumni data, those managing the career preparation of Dominican University students, and those researching and validating the DU experiences. There is generally agreement among these administrators that resources are limited. Within this context, they agree on the importance of moving forward to make the right data available to the right people in a timely, accessible, and secure manner. They generally agree that the university must look at communication flow, committee structures, infrastructure, and other collaborative systems to address any problems associated with access to alumni data. Given the recent restrictions on hiring, leaders are searching for ways to move forward with current resources.

Academic Unit Leader Priorities

Academic unit leaders want clarification on who should be granted access to alumni data. At a minimum, they want at least one trained individual in each unit who can access and analyze searchable alumni data in real time. Based on an aggregation of responses, the first priority is that they want an accessible, searchable, downloadable, and analyzable database with, at a minimum, the following current information:

1) Graduating cohort
2) Placement in first job or graduate school
3) Placement in subsequent positions (career path)
4) Industry of placement
5) Salary (or salary range)
6) Alumni accomplishments

Academic unit leaders emphasize that these data are needed for many reasons, from accreditation compliance to branding to strategic planning to curricular alignment. They further emphasize that

different programs tend to have different data needs. They would like a data base that contains a common core of data needed by all programs with the option of searching for additional data that are relevant to their needs. Data should be accessible, while respecting data protections specified by law, for all users needing data to manage programs at the university. This data base would need to be used under a set of university developed policies and procedures.[8]

The second priority is to investigate development of an Alumni Community with associated Alumni Communities within each College or program that are linked through the University Alumni website. This model is used successfully at other institutions. At least two Colleges at Dominican University, both of which offer advanced degrees, appear to be developing alumni spaces on their websites. It was suggested that a Master Plan across graduate schools should be considered to support this recommendation. These communities would be designed to create an engaged alumni that updates their records and interacts with current students in the programs, mentoring them, providing internship opportunities, and giving career building support.

The third priority would be to rethink how to survey alumni. Multiple academic leaders suggested that alumni surveys associated in some way with college deans or faculty within the college or program would improve response rates. It was suggested that high touch techniques such as holidays cards from faculty and organized communications with faculty through social media (in particular, LinkedIn) are likely to be more successful in updating alumni information than more traditional surveying methodologies.

Faculty Perspectives on Alumni Data Needs

Faculty are highly committed to knowing and engaging their students in Dominican University prior to and following graduation. With respect to the Bridge to Career initiative, their first priority concerns constructive alignment of curriculum with the goal of creating career-ready graduates. This concern is opening new doors for faculty to collaborate with functions such as Career Development. Faculty report that working with career development specialists has been very positive. This opportunity -- coupled with data needs related to accreditation standards and grant writing -- is expanding faculty views on what alumni data are needed, including appropriate data for confirming that new alignments of curriculum and university goals for educating career-ready students are currently being realized. The current emphasis on career-readiness of students is simultaneously highlighting the need for clarity on procedures and policies supporting alumni data collection and alumni database management.

The second priority for faculty is gaining support for their efforts to access the needed data. In response to the current needs for assessing student outcomes, faculty within programs are creating database resources that serve the needs of their programs. They indicate that data from the alumni database are either not sufficient or are not available for their purpose. The good news is that these emerging "shadow databases" at the program level represent opportunities for Dominican University. First, faculty who have expertise to develop and manage these databases are self-identifying and represent a university resource that is interested in the issues around employment outcomes. Second, the data they

[8] For example, see the Alumni Foundation Database Policy and Procedures developed by the University of Montana (http://www.umt.edu/policies/Miscellaneous/ alumnifoundationdatabase.php

collect can help populate and enhance the current alumni database. Third, these faculty contacts have the skills and knowledge needed to address the data flow problem. From a management perspective, the expertise of these faculty contributes to knowledge about solutions to problems encountered in the collection of alumni and employment data. Most importantly, they understand the issues around data integrity (e.g., reliable, valid, and sufficient for purposes for which the data are needed). From a faculty perspective, faculty believe they will benefit from additional alumni information and employment outcomes data, especially if it positively impacts their classroom. They want to engage alumni in their classrooms through guest lectures and other activities that bring students and alumni together.

Student Perspectives on Access to Alumni and Alumni Data

At Dominican University, career services staff assist faculty in bringing alumni to the classroom through guest lectures and for other relevant activities. They indicate that alumni data are needed but not always available or up-to-date for the purpose of supporting classroom or program-level initiatives. This is a concern since students indicate that they see these efforts to connect them with alumni as relevant to their college experience. They expect to have an opportunity to interact with alumni in class, at events, or through some other means. They are interested in obtaining information on career-related issues both directly from alumni and from career services. Learning about career opportunities and specifically learning about what college experiences are related to career success is one of their top priorities. More specifically, students are interested in direct contact with alumni in their career fields. The underlying message coming from students is that they want alumni to be engaged in the Dominican University community. Students are not quite sure what this has to do with alumni data. Fortunately, like other functions at the university, the career services function is looking for ways to meet student expectations (i.e., to engage alumni) and it is concerned about finding ways to incentive alumni to keep their directory and activities data up-to-date.

6 How Are Other Universities Using Alumni Data?

There is surprisingly little publicly available research on how alumni data can serve and support university wellbeing, especially credible research that is helpful in addressing how to track and collect alumni data at a university. However, a few articles do present observations concerning relatively recent approaches to completing this task. For example, the Student Affairs Leadership Council of The Advisory Board released a Custom Research Brief in 2012 on tracking student and alumni data.[9] The paper contains information on results from a case study using a small but diverse set of institutions. The authors documented the uses of alumni data at four private and two public universities with total enrollments ranging from 5,300 to 23,800. Among key observations concerning alumni data were the following:

- Alumni offices prioritize the following essential data: alumni contact information, employment information, and records of participation in events. Additionally, alumni offices typically link all historical student records to alumni records. Several (institutional) contacts indicate that the

[9] Vasudevan, N. & Zellner, K.S. (2012). Tracking student and alumni data: Leveraging social media, historical data, and alumni relationships to build robust databases. Student Affairs Leadership Council. The Advisory Boar Company. Washington, D.C. https://www.eab.com/research-and-insights/student-affairs-forum/custom/2012/02/tracking-student-and-alumni-data

alumni office also seeks discretionary data on alumni family members, student activities, and hyperlinks to alumni social media profiles.

- (Institutional contacts) indicate that student and alumni data (are) rarely stored within the same database.
- Institutions host an institution-specific online community through vendors… These communities feature alumni profiles and facilitate the collection of updated contact information. Several (institutional) contacts also stress the importance of monitoring popular social media sites to collect additional information on alumni and students. (Institutions) indicate that tracking students and alumni requires a significant staffing investment…

Key recommendations from the report include designating one office to construct a database of record, investing in a comprehensive social monitoring tool, and using an on-line community to update contact and employment information. Strategies for collecting and consolidating existing university data include surveying by institutional research, forwarding of information on alumni by offices within the university to the office housing the database of record, using Constituent Relationship Management (CRM) tools, providing access to students to update their alumni profiles (with e-mail reminders sent to alumni and incentives to respond), leveraging social media monitoring tools to collect alumni data, and coordinating data collection across campus. The report also noted that although alumni data "could serve career service goals by connecting current students with alumni working in the students' fields of interest", alumni administrators (in the contact institutions) "have reportedly not yet built collaborative relationships with (the) career services office."

Though the study is limited on many key criteria, it does highlight a major factor: No one strategy for tracking alumni and employment outcomes works for all institutions. The approach must be customized to fit the situation and purpose for which the institution tracks alumni and employment outcomes. For example, the use of a single office of record for all data may work for some institutions but may not be feasible for other institutions, making it necessary in the latter case to search for alternative models. Nevertheless, many of the suggestions do mirror information found on the internet that reflects how alumni relations functions are generally using data and engaging alumni. The following are initial observations based on a web-review with websites for various university sites:

1. Many institutions maintain an alumni directory as a web site service. These directories are usually restricted and protected by requirement that the user be granted access with an appropriate login and appropriate password. (See http://alumnicommunity.ben.edu/s/1693/start.aspx)
2. Many institutions provide an extended career support for alumni. These activities frequently are provided as web-based services and enable alumni to contact colleagues in their careers and other careers with the intent to pursue new career options. (See http://www.utc.edu/career-student-employment/alumni/alumni-job-search.php)
3. Some institutions have detailed alumni outcome information as part of their website such that these data can be used for describing academic programs and also documenting the outcomes of those programs. (See http://wp.stolaf.edu/outcomes/employment-outcomes/)
4. Many institutions provide mechanisms for alumni communities to directly interact with each other. These communities are frequently based on activities while enrolled, majors, ethnicities, alumni activities, interest, and career characteristics. Their formation seems to be supported by

searchable websites that alumni can access. (See http://alumni.sph.harvard.edu/s/1319/02-HSPH/start.aspx?gid=2&pgid=61)

5. Most institutions have a social media presence, particularly on LinkedIn and Facebook. Some of these institutions have multiple LinkedIn groups based on the location, discipline, and/or interest of the alumni. (See https://www.linkedin.com/edu/school?id=19440&trk=edu-cp-sa-slogo)
6. Some institutions have aggressive programs to engage alumni in university activities with the result of obtaining more current and detailed data on the alumni. The activities often include students and are linked to career aspect. Similarly, some institutions have built a very strong alumni aspect into their student career services. (See http://www.longwood.edu/career/22323.htm).

7 Organization of Recommendations

We began this report by examining the context within which Dominican University and other institutions in the United States are reevaluating the need for alumni data. This was followed by discussion of observations from leaders at the University and information on initiatives at various colleges and universities. The remainder of this report focuses on possible strategies for addressing how alumni data may be made more useful at Dominican University. The Recommendations Sections are organized around a data management model which is then supplemented by a set of "contextual recommendations" that we believe can have real impact in the short-term by enhancing data quality and supporting the Bridge to Career initiative.

8 Recommendations for Alumni Data Governance

We begin this section by sharing observations that appear to be relevant to our recommendations. The observations are not ordered by priority. The primary source of the observations come from interviews, reading the work of the Bridge to Career task force, and from documents accessible through the internet.

1. There is a consensus throughout Dominican University that alumni and employment outcomes are becoming increasingly important to managing the university at all levels and to meeting the goals associated with the Bridge to Career initiative. The belief that improvements should be made to alumni data is widely-held. The improvements should include, at a minimum, the currency of the data, its consistency, and its availability.
2. There is uncertainty around questions concerning how data on alumni and employment outcomes should be collected and maintained, but concerns about the limitations with the current system appear to over-ride these concerns. Concerns are being driven by the need for data that are searchable and available in real-time. The immediate reaction of most institutions has been the development of multiple databases where alumni and employment outcomes data are being collected, maintained, and used for reporting by multiple functional areas (e.g., alumni relations, institutional research, career services, colleges/programs). At Dominican University, there appear to be the three primary centers for collection and maintenance of data on alumni outcomes,

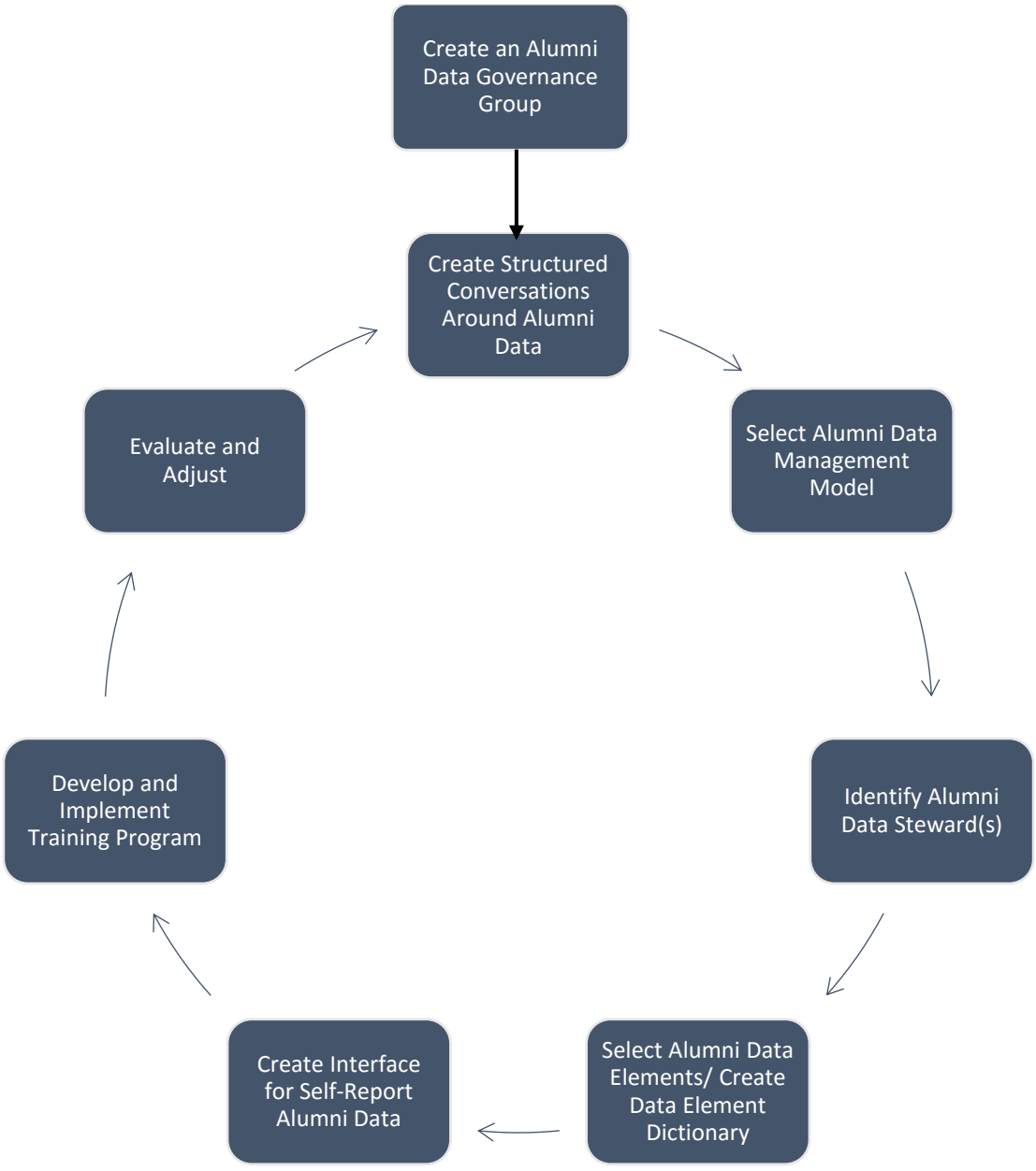
especially employment and career data for alumni. These are University Advancement, Career Development and Institutional Research. Institutional Research conducts surveys of graduates and alumni.

3. Observations suggests that some users and providers of alumni data believe that they are not well-served by current practices used to collect, maintain, and disseminate alumni and employment outcomes data. This appears to be a symptom of several underlying problems. First, the data are maintained in siloes with no governing policies in place to guide updating the data and making the data more accessible to users. This is a policy problem, not a technical problem since the capability to provide data in real time is technologically feasible. Second, there is a real, not imagined, need for employment outcomes data by program. This is a management problem that is difficult to solve. Users in some functional and academic areas feel frustrated by lack of real-time access to the needed data and are responding by building their own databases (i.e., shadow databases) to support their ability to fulfill the duties of their job.
4. The development of databases to support college/program develop is not uncommon, though it is sometimes a controversial topic. Arguments are that their presence potentially leads to inconsistencies in reporting as there may be differences in official versus non-official university numbers. However, there are also discrepancies found when comparing Dominican University's official internal numbers with numbers found on sites such as the USDE College Scorecard (https://collegescorecard.ed.gov/school/?148496-Dominican-University). The challenge is to find a way to ensure that use of the data from all databases result in reliable and valid metrics. The problem is that different databases, different definitions, and different numbers yield different results. In spite of the potential problems, we would suggest that, absent a system to make the alumni and employment outcomes data more accessible, the collection of alumni data at the level where it is needed should be respected. The data are being collected for valid and important reasons. Unfortunately, though some of these data do feed into the University Alumni Database, this appears to be the exception rather than the rule.
5. Dominican University is located in a very competitive market place for students and resources. Examination of websites of several area universities confirms that, as noted by the Bridge to Career Task Force, other competitors appear to be more advanced in their use of the web to engage alumni. This engagement includes both maintaining current information on alumni (e.g., contact and employment information) and providing services to alumni (i.e., networking, career services).
6. Functions within Dominican University have chosen reputable software products to manage their alumni data. Not all capabilities of these products have been purchased and utilized due to cost considerations. The monetary costs should be weighed against the costs of not having desirable capabilities in place (i.e., the time spent in searching for data that could be readily available, the labor required to input data that could be captured and disseminated using automatic updates, the time devoted to creation of shadow databases, etc.).

Figure 2, shown below, represents a typical data management model and will be used to guide the discussion about recommendations for possible changes to processes and the alumni database infrastructure. Because components of the model overlap, it is circular; changes in one component impact all other components. As new processes are implemented, previous steps may need to be iteratively revisited as part of the evaluation and adjustment process.

Recommendations are presented in two parts. The first eight recommendations are organized around the data management model (Figure 2). A group of nine contextual recommendations are then presented but not arranged by priority.

Figure 2: Data Management Model.



Recommendation 1: Create an Alumni Data Governance Group

Rationale. In a recent EDUCAUSE article, Mike Chapple[10] builds the case for establishing a workgroup to develop data policies and procedures and to identify other key parts of data governance (e.g., a data element dictionary, a data flow diagram). The focus of this workgroup -- which we refer to as the Alumni Data Governance Group -- is to develop governance policies that support user access to timely and sufficient data that are protected with appropriate security

Procedure. We recommend that the following be considered:

Step 1. An Alumni Data Governance Group should be created/appointed by the President and preferably chaired by a senior university administrator or senior university faculty member. Membership on this Alumni Data Governance Group should represent the broad array of users and should include, but not be limited to: Information Technology; University Advancement, Development and Alumni Relations; Career Services; Institutional Research; the Provost Office; Deans and key Academic Programs representatives and faculty; the Registrar; Marketing and Communications; a student representative; and an alumni representative. The charge to this group would be to standardize the alumni data selected as part of the overall university alumni database system and to create a governance structure to manage these data. We are assuming that multiple databases are needed – for example, including (but not limited to) alumni affairs and career development databases – and that they can be linked by technology.

Step 2. Implement and modify the responsibilities of the Alumni Data Governance Group as needed. Its *first and most critical responsibility* is to develop an Alumni Data Governance Policy to guide future actions. Preferably the group would oversee and support the development of an infrastructure that meets the needs of university users, one of which is to make the data accessible, searchable, and available in real time. The governance policy should be developed as quickly as possible and, while development of an infrastructure will take time, the discussions should begin now.

Step 3. Form working groups as needed to implement tasks associated with Alumni Data Governance Group responsibilities. Preferably, at least one governance group member should serve on each work group. These work groups should be able to make major progress in two years. Preferably, the plan and *draft* documents should be deliverables after one year. This may or may not require commitment of some monetary resources, but it will clearly require labor resources (time and people). While additional resources would accelerate the process, they are not essential.

Recommendation 2: Create a Structured Conversation about Alumni Data

Rationale. There is a vibrant discussion around access to alumni data, in part growing out of the work done on the Bridge to Career initiative and the substantial efforts by Dominican University to achieve professional accreditations. Though some comments are made out of frustration with the lack of a quick solution for gathering and disseminating needed data, the collegiality

[10] Chapple, M. (2013, Nov/Dec). Speaking the same language, Building a data governance program for institutional impact. EDUCAUSE Review: 14-27.

shown among parties to the discussion is commendable. We believe that the real problem is that discussions are not yet adequately structured around a more concrete statement of the purpose for enhancing alumni data.

Procedure. We recommend that the following be considered:

Step 1. Create a purpose statement for managing alumni data. It should address such questions as: Why should alumni data and access to these data be done differently today than in the past?

Step 2. Once the purpose statement is written, focus the current and on-going discussion on how alumni data should be managed, who should have access to data, and where resources for further developing alumni database(s) should be allocated. (These questions should be addressed and the answers vetted as part of development of the Alumni Data Governance Policy.) Build the conversation through action. For example, 1) develop visuals (i.e., a flow diagram) that shows how data are flowing into and out of the datasets currently in place for use by decision makers, 2) write a needs statements for primary end users of alumni data that clearly specifies who needs what data and when they need them, 3) identify sources where the data are captured, 4) identify subsets of the data that are needed by specific users, and 5) describe the processes used for data security and archiving.

Step 3. Create written drafts for two major policies. One policy should focus on categorizing data based on their security. Data security issues will cover a range of concerns from which data are public to which data should be accessible only with permission of the Data Steward. The second policy involves the roles and responsibilities of those who manage the data. The four primary roles are usually the Data Steward, the Data Manager, the Database/IT Administrator, and the User. There are numerous examples of Data management policies available on the web. (For example, see http://policies.iu.edu/policies/categories/information-it/data-management/DM-01.shtml , http://www.mais.umich.edu/access/download/daguide.pdf , and http://www.policies.vt.edu/7100.pdf)

Recommendation 3: Select an Alumni Data Management Model

Rationale. Although it will take time to select the appropriate model, the discussion about what type of alumni data management model/infrastructure to use should begin immediately. This will actually be a continuation of the discussion articulated in the Bridge to Career Final Report. With respect to data and assessment, the task force noted that

> a key theme across all of these areas is the collection and thoughtful analysis of a lot of data—data on available resources, data on outcomes from experiential learning, data on alumni experiences, data on local employers and their needs, etc. Moreover, these data sources are made available to a variety of stakeholders…While we could not inspect the IT infrastructure required to support these efforts, it was clear that they are well organized and succeed largely because these schools are tracking the right information and getting it into the right hands at the right time. (What's Working, What's Missing, p. 7)

Responding to the task force observations about "tracking the right information and getting it into the right hands at the right time" requires a concerted effort to identify the types of data management infrastructures that are available.

Procedures. We recommend that the following steps be considered:

Step 1. Create a work group to examine the types of data models and their associated data flows available for alumni and employment data. Examples of the two main alternatives are given below:

1. Centralized Model. Data from the identified data bases flow to a central data set, are integrated, and data views are provided to users. Archives are created. While the location of the single data repository is a decision for the Group and ultimately for the University, it would seem that the most likely central location is in University Advancement where the Raiser's Edge capabilities are augmented and/or systems are obtained to accept feeds from academic programs and Career Central Network similar to the manner that the Alumni Affairs database currently gets feeds from the Registrar. The use of feeds from EngageDU should also be integrated into this assessment of the use and expansion of Raiser's Edge. There will likely be a cost associated with additional Raiser's Edge capabilities.
2. Distributed/Federated Model. Under this type of database management system, several autonomous databases are integrated into an interconnected data structure. Actual data integration is not required and users can retrieve data from noncontiguous databases with a single query. For example, there may be two major categories of events for alumni; career skills and other endeavors.[11] A reasonable strategy would be to create two data flows with two infrastructures, one for the world of work and career endeavors and the second for other events and activities. The world of work and career data could be in a database where the individual's record was started when the individual was an applicant and would be in the data structure through their student experiences and continue into life after attending Dominican. The other data, including engagement and university support, could be in a database that started when the student received a degree from Dominican. These two infrastructures would be managed by functional data stewards and might or might not be physically housed in the same database. Data Marts could be created based on frequent requests. Data on career/employment outcomes and work events for applicants, students, and alumni could be fed from a data base of career events managed by Career Development while contact information could come from an alumni affairs database. Key elements such as the student ID could be identified in both data bases for integrating and disseminating information to users. Additional databases could be added to the system as needed.

Step 2. Draft a recommendation concerning the appropriate data management model for Dominican University based on work group findings, priorities, available resources and technology, and organizational priorities.[12]

A rationale should be articulated for choice of a data management model. Under both models, certain responsibilities for current data will be constant. For example, the Registrar is the data steward for

[11] While the second stream can be further divided into curriculum and co-curriculum activities, for the purposes of extending the discussion of alumni data and career activities it will be considered one stream.

[12] The current system is inefficient and ineffective. Though there may be interim steps that could be taken, simply applying a Band-Aid or short-term solution will not yield the desired long-term benefits.

student academic records and the FERPA directory Flag while the VP of University Advancement is the data steward for academic information on those students following graduation. (Data stewards will be described in more detail under the next recommendation.) There is, however, a difference in the models with respect to identification of a data steward. In the centralized model, the data steward for alumni data would be an individual in University Advancement; in the distributed model with its multiple data flows, the data steward for employment outcomes would likely be in Career Development and would be an assigned to the role by the Provost. Career Development would house all data linked to careers and employment, including both undergraduate, graduate and alumni data. The major advantage of the single database is that data about post-graduation events are in one place. The advantage of the multiple database distributed model is that the database would include data on students not yet graduated and would include their employment history before and after graduation.

Both data models would create user-needed data marts where users such as the academic programs, Marketing and Communication, and Learning Outcomes Assessment could access lists and run analyses. Both models would require commitment of IT resources to build the data links and interfaces. Both models require data governance and responsible data-use processes. Both models require that additional resources be available to Career Development to build a data management capability for undergraduate data.

The Bridge to Career Task Force recommendations do call for investigating which software applications and products/modules are best for the intended use of the data, how they align with current systems, and creating and promoting use of a methodology to link other sources of alumni outcomes data into the University alumni database (pp. 29-30). They do not address whether these outcomes data should be housed in multiple databases that can be linked by a common data element that enables the user to extract with one query from multiple sources. Nevertheless, the challenge will be how to effectively integrate data into a system that extends and/or enhances the current Blackbaud Raiser's Edge system or augments it with a compatible system to support collection of data about extended learning and co-curricular activities, post-graduation activities and events, career events, and most likely the database that supplements that available through the College Central Network used by Career Development.[13] This integrated data will need to be provided to the university community as appropriate to meet the needs of key users such as the academic programs and administrative units while ensuring data security and data integrity.

Recommendation 4: Identify Alumni Data Steward(s)

> **Rationale.** While an IT group may be essential in providing technology, support, platforms, and infrastructure, the responsibility for rules and standards governing data lie with the university.

[13] The Career Central Network is an external web-service provider so the daa base of Dominican students and alumni is not likely to be part of the campus IT, but it must exist somewhere and it would seem reasonable that Dominican could have a copy of it made available to IT at Dominican. Raiser's Edge also has some capability for Career Services data- for example see Data Management Principles - Haverford College , https://www.haverford.edu/sites/default/files/Office/HR/Data-Management-Principles.pdf . *At Haverford, Career Services uses Raiser's Edge as its data base.*

The data steward acts on the university's behalf by taking responsibility for overseeing security and the integrity of the database and its data.

Procedures. We recommend that the following steps be considered:

Step 1. Define the role of the data steward(s) at Dominican University. The data steward, defined as an administrative custodian of the data, typically has multiple responsibilities, including managing and overseeing the integrity of the data and informing users of policies governing use of the data. The responsibilities of a data steward are generally grouped into four categories – Collaboration, Data Collection, Data System Management, and Data Reporting and Analysis. There are specific responsibilities associated with each category which are customized based on the context or situation. Examples of some, but not all, generally assigned responsibilities are shown below by category.[14]

> **Collaboration**. Data stewards are expected to foster relationships with other internal or external agencies that provide or receive data for which they are responsible. They work with peers and participate in related professional activities that support their efforts to provide data that meet generally accepted standards of integrity.
>
> **Data Collection**. Data stewards monitor data needs and identify the appropriate data resources for specific needs. They oversee the implementation of policy and procedures and ensure data quality standards and quality data collection techniques.
>
> **Data System Management**. Data stewards maintain close working relationships with software vendors and users, ensure that the data system is operational, and provide access to users. They troubleshoot data submission errors and address other user problems. They provide guidance and document procedures for data preparation, cleaning, and standardization. They develop and maintain public access and restricted access data portals.
>
> **Data Reporting and Analysis**. Data stewards understand and educate users on privacy law and standards. They are sometimes asked to develop ad-hoc reports about the database as necessary and present information at meetings where needed.

Step 2. Assign a data steward to each database housing alumni or employment outcomes data, keeping in mind that the alumni data can be located either on the administrative or academic sides of Dominican University. For example, colleges or programs may develop databases to support such things as accreditation reporting standards or curricular alignment with career-ready goals for students. Data stewards may or may not be an IT person, but they should have some working knowledge of how the data in a particular database is collected, maintained, and disseminated and must understand data governance. Some in-house training may be required, but there should be no major costs associated with this training.

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[14] A more comprehensive list of data steward duties is given in the Rowan University policy: http://www.rowan.edu/adminfinance/controller/purchasing/documents/DataGovernancePolicy1-1-2014.pdf and also the Virginia Tech policy: http://www.policies.vt.edu/7100.pdf

Recommendation 5: Select Alumni Data Elements and Create a Data Element Dictionary

Rationale. The Organization for Economic Co-operation and Development (OECD) defines a data element as "a unit of data for which the definition, identification, representation, and permissible values are specified by means of a set of attributes."[15] Not all alumni data elements and their associated career and work activities are of importance or interest to all key users in the University community. The Alumni Data Governance Group will need to oversee selection of those elements that are important and which need to be maintained at standards for the level of University data. Each database will need to select and input those data elements that are consistent with the purpose for collecting, maintaining, and disseminating the data.

Procedures. We recommend that the following steps be considered:

Step 1. Identify key sets of data as defined by users and stewards and then detail the important data elements within each set. Results should be vetted with key university users. Data elements may be added or subtracted as experience is gained with using these data. While there are no exact rules, a data element should probably be in the database if it:

1. Is used in an external report or to derive an element used in an external report.
2. Supports internal effectiveness and decision-making.
3. Is used for monitoring some activity.
4. Influences resource allocation.
5. Is associated with the mission, values, and/or identity of the University.
6. Is used to communicate some visible aspect of the University to a public community.

For example, the Bridge to Career Task Force identified a need to establish a network of personal contacts outside the university that can help students before and after graduating by connecting with the business community, activating and expanding "the Dominican network of alumni, parents and friends", and making and maintaining alumni connections. The report specifically notes the need to make a concerted effort to populate work histories for alumni over the past 10 years, connect the alumni database to programming efforts (e.g., career panels, etc.), and connect the alumni database to assessment efforts (e.g., outcomes by major by year, etc.) (pgs. 10-11). In this case, it could be argued that data elements representing alumni engagement and employment outcomes are important to assessing the career readiness of graduates and the success of the Bridge to Career initiative.

Step 2. Create an Alumni Data Element Dictionary that defines data elements in alumni and employment outcomes databases. The Alumni Data Element Dictionary ideally includes both definitions for the data elements and also metadata about their creation, modification, securing, and archiving. [16] At a minimum, it should include the following:

- Definitions,
- Processes for auditing and correcting
- Business rules for created elements

[15] https://stats.oecd.org/glossary/detail.asp?ID=538

[16] Minimum parts of the dictionary are definition, form, and allowable values: http://www.calstate.edu/ES/intranet/applications/aa/apdb/documents/TransactionDEDSection5.doc

- Degree to which the data are sensitive or restricted
- Process for access (person to contact)
- Security process
- Process for archiving
- Other

The Dictionary should be available to all users of non-restricted data and as appropriate for restricted data (data requiring permission to use, often with a login and password).

Recommendation 6. Create an Interface for Self-Report Alumni Data

Rationale. Though we are not aware of components advocating for "an interface that permits self-report alumni data" in any data management model, we believe that this category is too important to note as an afterthought. A quick internet search of alumni websites provides compelling evidence that website portals are going to become a primary source of alumni data. Though it is not the intention of this report to identify best practices for alumni of websites, we have concluded that the alumni websites are essential for collecting quality alumni data.

Procedures. We recommend that the following steps be considered:

Step 1. Improve the visibility of the Alumni Home website. Create more visible links to the webpage from the main Dominican University webpage. Though the alumni page is competing with other services for recognition, we believe it is deserving of more space. It can become an important vehicle for updating information on alumni, in particular, for employment outcomes. Furthermore, the alumni themselves provide a mechanism for engaging the alumni in a way that can be effective for maintaining an updated directory of alumni contact information and updated information on alumni careers and activities.

Step 2. Create a searchable web-based alumni directory. It is a widely held belief that alumni will be much more likely to keep their directory and contact information current if other alumni are using the information as a way to contact classmates or if Dominican University is using the information to inform alumni about Dominican events. Other institutions of a similar size to Dominican University have searchable alumni directories on their websites. (See St Thomas at http://www.stthomas.edu/socialmedia/ and St Xavier at http://www.sxu.edu/alumni/). Most websites we searched placed the web-based alumni directory in a restricted space requiring a login and password. Another often unintended benefit of web-based alumni directories is that they support development of communities of interest. While these communities are less common than directories, they seem to be a major presence on a significant number of websites. (For examples, see http://www.apscu.org/knowledge-center/publications/best-practices/ and http://alumni.princeton.edu/communities/).

Step 3. Create an alumni website for each college/program. The argument has been made that graduates are more likely to respond to inquiries from their colleges/programs or faculty than from the university. If this is true, an appropriate website that links back to a college or program is necessary for collecting quality alumni data in a consistent manner. The data collection process would be greatly improved if the primary program websites for graduates were linked to the central Alumni website (https://www.oho.com/blog/essential-features-for-your-alumni-

website). At least two programs at Dominican University have alumni websites. Unfortunately, they are not visible from the University's other webpages and do not appear to have a direct link from the university alumni websites.

Recommendation 7. Develop and Implement Training Program on Use of Alumni Data

Rationale. Users of alumni and employment outcomes data should understand the nature of the data and its appropriate uses, and should know the capabilities of the software. In addition, they should be aware of all security issues associated with extraction of and use of student and alumni data for public purposes.

Procedures. We recommend that the following steps be considered:

Step 1. Assess user needs, knowledge, and skills. As the Alumni Data Governance Group moves forward, it should review and, where appropriate, revise the statements of user needs. It should then work with the users to identify their abilities relative to the access that can be provided. This type of gap analysis will form the basis for developing and implementing the appropriate training programs. Training programs should be developed in cooperation with the data steward, information technology, and the appropriate HR functions. At a minimum, users should receive training on the following:

1. Data security.
2. Basic definitions and the data element dictionary.
3. Major uses of the available data elements.
4. Availability of alternative tools.

If the data extracts can be created using tools and software that are familiar to the various users (e.g. Excel, Access), the training will be less complicated. It is advisable to ask participants to sign a document indicating that they 1) have read the FERPA rules, 2) have read the University policy on responsible use of data, and 3) will comply with rules and relations as explained in the documents.

Recommendation 8. Evaluate and Adjust Policies and Procedures

Rationale. No implementation plan is perfect. It will be necessary to evaluate and adjust processes as the university goes forward in implementing its alumni data initiatives.

Step 1. Develop a standing schedule of periodic meetings of the Alumni Data Governance Group. For example, the group might meet once a quarter.

Step 2. As data are integrated and made available for users, conduct discussions with and among users to help determine the degree to which their needs are met. These discussions should lead to evaluations that identify what modifications can be made in the dataset to provide additional opportunities for use.

Step 3. Discuss and review the pros and cons of the alumni data governance process as implemented by the Alumni Data Governance Group after it has been in operation for an appropriate time period.

9 CONTEXTUAL RECOMMENDATIONS

Contextual recommendations are a list of actions that will enhance data quality and support the Bridge to Career initiative. While the recommended actions are not dependent on building a data governance process for alumni data, we believe that these actions will be more sustainable over the long-term if supported by a purposeful data governance structure.

Contextual Recommendation 1. Build a database capability in Career Development that gives it a data management capability.

> **Rationale**. The current College Central Network system that services students, alumni, and employers appears to meet many of the needs of the career services function. Information available through this system is readily available and can be useful in meeting the Bridge to Career goals. However, the system does not appear to function adequately as a data source that supports other management and analysis systems. Furthermore, alumni data located in other parts of the University do not appear to be readily available to Career Services. Building database capability that addresses this problem could be a starting point for linking together the data from academic programs with data from career and work-related activities of current students and alumni. This will require assigning personnel with the appropriate data and database skills to Career Development.

Contextual Recommendation 2. Revise the alumni survey to mirror NACE standards with supplemental parts that support learning outcomes assessment separate from contact data.

> **Rationale.** Not all alumni data have to be collected using a single alumni survey. For example, a more traditional and extensive alumni survey can be divided into two different alumni surveys with neither survey taking longer than 10 to 15 minutes to complete. One survey can focus on collection of contact and employment-related information while the other addresses questions of student readiness. Dominican University is already a member of NACE and has participated in various NACE activities. It is not clear if (or how much of) the data from these participations can be feed to the Alumni Database in University Advancement. (See: http://www.naceweb.org/) (http://www.naceweb.org/knowledge/assessment/first-destination-survey-standards.aspx?terms=Standards)

Contextual Recommendation 3. Facilitate and standardize the input format on updated career information that are provided by faculty and academic programs.

> **Rationale.** There does not appear to be a standardized methodology by which academic programs and activities can feed updated directory information into an alumni database. The website and other methodologies for updating alumni contact information could be simplified by defining a standard set of attributes that a program might collect and then providing an ETL type tool with the ability to connect the different databases. This would enable the academic programs to use the data tool of their choice.

Contextual Recommendation 4. Review software and its capabilities on an on-going basis.

> **Rationale.** The concerns of internal users of data can be addressed by educating them about the technology available through systematic reviews of available software. On several occasions

individuals mentioned that newer versions of software and additional modules may have made developing and maintaining various types of data in an alumni database more feasible and convenient, but simply reading advertising material is not sufficient to evaluate the capabilities of software. Investigation should include discussions with knowledgeable colleagues and making contact with individuals at institutions that are actually using a specific module or software. (http://www.capterra.com/categories)

Contextual Recommendation 5. Engage students in developing their own record in an Alumni Database.

Rationale. While providing a list of university graduates from the Registrar's student records database is adequate to populate a database of alumni in the short-run, having students work with alumni programs to develop their own alumni record engages the students over a longer term and provides a mechanism for encouraging them to update their records. Some institutions such as Wheaton College create a Student Alumni Board as part of this approach to engagement. (http://alumni.wheaton.edu/s/1156/index2col.aspx?sid=1156&gid=1&pgid=1306)

Contextual Recommendation 6: Leverage social media tools, such as LinkedIn, by training academic programs on how to use its analytic and search capability.

Rationale. Some of the academic programs appear to make extensive use of social media such as LinkedIn. The University should build on this and other social media technology methodologies by training personnel how to use it. If a standardized procedure and format could be developed for an academic program to use in maintaining data on alumni, then this procedure would facilitate designing a way to migrate these data into university databases. Some institutions actually use vendors to support this activity, but there is a cost for using these types of services.

Contextual Recommendation 7: Review the coordination process for conducting alumni surveys.

Rationale. Institutional Research has already begun a discussion with individuals from the various groups who survey alumni. To facilitate these discussions, users of alumni data should meet and work with Institutional Research to inform themselves about current surveys being sent to alumni, basic University survey policies, and calendars for administering surveys. Any suggestions for changing survey policy to accommodate alumni data should be vetted through the Alumni Data Governance Group (or equivalent group) and Institutional Research and, as appropriate, used to make any required adjustments to University policy as it pertains to collection of alumni data through surveying. (For examples, see http://policies.fsu.edu/content/download/168608/1477264/SurveyPolicy.pdf and http://www.pugetsound.edu/about/offices-services/institutional-research/survey-policies-and-resources/puget-sound-survey-policy-and-/)

Contextual Recommendation 8: Create a standard University extract of alumni data with directory information.

Rationale. Efficient systems are more cost effective over time and generally less labor intensive. Make an alumni data extract available to appropriate University users so that they can run their own lists. Create a university policy concerning the use of this tool. For an example of a policy

on use, see http://alumni.aurora.edu/s/1512/match/index.aspx?sid=1512&gid=1&pgid=715 and http://www.alumni.upenn.edu/s/1587/images/gid2/editor_documents/privacy_/policy.pdf

Contextual Recommendations 9: Investigate collaborative strategies for keeping alumni directories up-to-date and for engaging alumni.

Rationale. A collaborative process for keeping alumni directories up-to-date is more likely to succeed than the more traditional strategies. Bringing all users of alumni data to the table in a systematic fashion to identify best practices for developing and maintaining alumni directories and encourage alumni engagement would be beneficial. Broadening these conversations to share and document information on strategies that are currently being used to collect alumni data by various activity and program areas within Dominican University could then be evaluated through examination of practices at other institutions. For example, users could collectively examine The Education Advisory Board site that identifies 157 strategies for keeping student and alumni data up-to-date (https://www.eab.com/ research-and-insights/advancement-forum/resources/posters/strategies-for-alumni-and-student-data-collection?WT.ac=HowWeHelp_AF_Info___StudentDataCollection_1). Similarly, UC-Berkley staff in the Alumni Offices identify strategies to engage alumni in student and university activities (http://www.haas.berkeley.edu/groups/alumni/community/student/club_guidelines.pdf)

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WEBSITES (IN THE ORDER THEY ARE USED IN THE REPORT UNLESS REFERENCED ABOVE)

1. Project Purpose

2. What Is Driving the Need for Data on Alumni?

https://cew.georgetown.edu/cew-reports/valueofcollegemajors/

https://www.alumnifactor.com/leadership ,

https://colleges.niche.com/dominican-university/,

http://www.brookings.edu/~/media/Research/Files/Reports/2015/04/29-college-value-add/BMPP_CollegeValueAdded.pdf?la=en),

3. What Are Best Practices for Collection and Dissemination of Alumni Data?

http://www.studentclearinghouse.org/colleges/gainful_employment.php#sthash.xs9tmRPS.dpuf

http://wp.stolaf.edu/outcomes/employment-outcomes/

http://wp.stolaf.edu/outcomes/employment-outcomes/

http://www.naceweb.org/principles/

http://www.naceweb.org/knowledge/assessment/first-destination-survey-standards.aspx. The

4. What Is the Current Status of Alumni Data at Dominican University?

http://www.softwareadvice.com/nonprofit/)

https://www.searchbug.com/ peoplefinder/ for information on Peoplefinder

5. What Alumni Database Attributes Do DU Leaders Want?

http://www.umt.edu/policies/Miscellaneous/ alumnifoundationdatabase.php

6. How Are Other Universities Using Alumni Data?

http://alumnicommunity.ben.edu/s/1693/start.aspx

http://www.utc.edu/career-student-employment/alumni/alumni-job-search.php

http://alumni.sph.harvard.edu/s/1319/02-HSPH/start.aspx?gid=2&pgid=61

https://www.linkedin.com/edu/school?id=19440&trk=edu-cp-sa-slogo

http://www.longwood.edu/career/22323.htm

8. Recommendations for Alumni Data Governance

https://collegescorecard.ed.gov/school/?148496-Dominican-University)

http://policies.iu.edu/policies/categories/information-it/data-management/DM-01.shtml

http://www.mais.umich.edu/access/download/daguide.pdf

http://www.policies.vt.edu/7100.pdf

http://www.calstate.edu/ES/intranet/applications/aa/apdb/documents/TransactionDEDSection5.doc

http://www.stthomas.edu/socialmedia/

http://www.sxu.edu/alumni/

http://www.apscu.org/knowledge-center/publications/best-practices/ *(this seems to be disabled)*

http://alumni.princeton.edu/communities/

https://www.oho.com/blog/essential-features-for-your-alumni-website

9. Contextual Recommendations

http://wp.stolaf.edu/outcomes/employment-outcomes/

http://www.naceweb.org/about-us/press/standards-protocols-for-advanced-degrees.aspx

http://www.capterra.com/categories

http://alumni.wheaton.edu/s/1156/index2col.aspx?sid=1156&gid=1&pgid=1306

http://policies.fsu.edu/content/download/168608/1477264/SurveyPolicy.pdf

http://www.pugetsound.edu/about/offices-services/institutional-research/survey-policies-and-resources/puget-sound-survey-policy-and-/

http://alumni.aurora.edu/s/1512/match/index.aspx?sid=1512&gid=1&pgid=715

http://www.alumni.upenn.edu/s/1587/images/gid2/editor_documents/privacy_/policy.pdf

(http://www.haas.berkeley.edu/groups/ alumni/community/student/club_guidelines.pdf

Appendix A

http://www.alumni.lewisu.edu/page.aspx?pid=482

https://connect.northpark.edu/

https://www.ben.edu/alumni-friends/stu-alumni/alumni-community.cfm

https://alumni.columbia.edu/alumni-directory

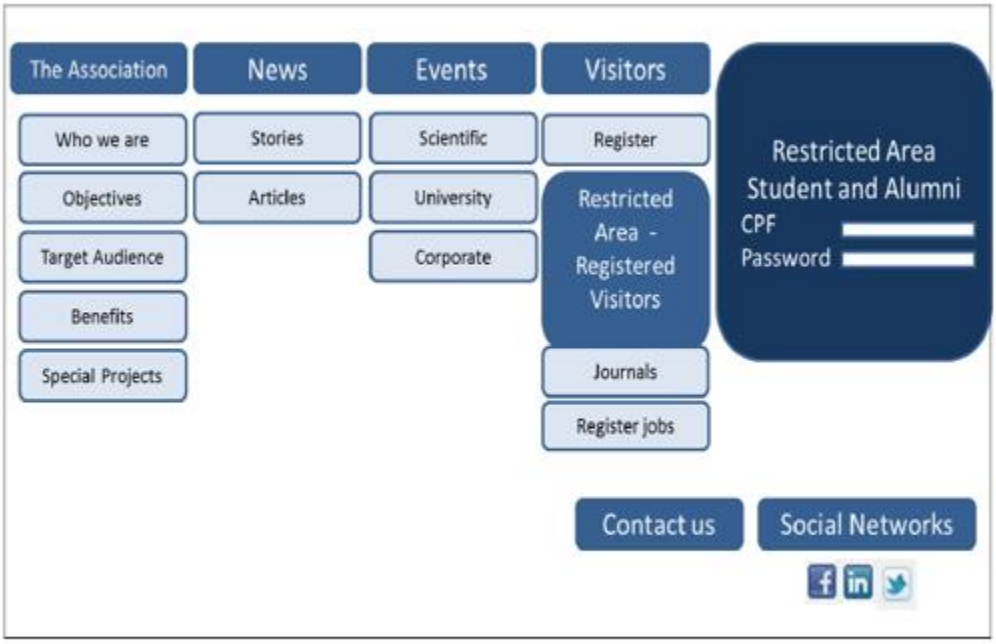
APPENDIX A : WEBSITES, DIRECTORIES, AND COMMUNITIES

While it is not the intention of this report to identify best practices for alumni websites, alumni websites can play a major role in collection of quality alumni data. They provide a mechanism for engaging the alumni which is a key element in maintaining an updated directory of alumni contact information and updated information on alumni careers and activities. They provide a mechanism for communicating with alumni about current university events, activities, and concerns. Finally, they provide a mechanism for a learning community where alumni interact with other colleagues and where appropriate, with students and prospective students. The following looks at websites and two of their features -- directories and communities and at social media.

1. Alumni Websites

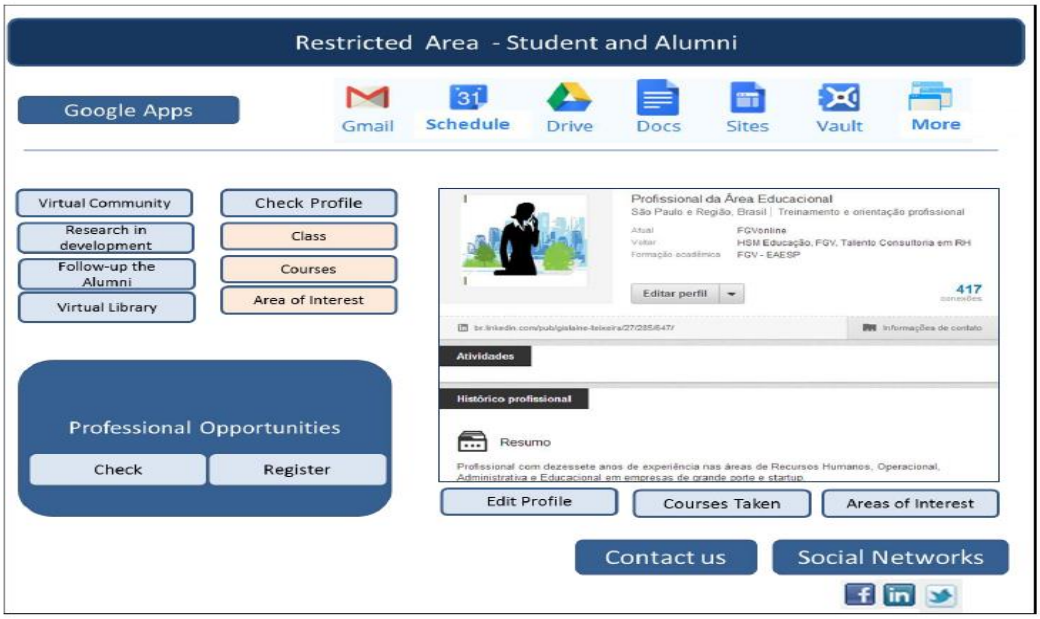
A recent article by Teixerira and Maccari (2014) obtains a comprehensive discussion of Alumni Portals based on the review of a large number of these websites. They concluded that the alumni portal has two areas a public area and a restricted area. The following are illustrations for those two areas and the content they are likely to contain. The Figures have the numbers they had in the article.

Figure 3: Prototype of an Alumni Portal – Public Area



Source: Elaborated by the authors

Figure 4: Prototype of an Alumni Portal – Restricted Area



Source: Elaborated by the authors

The article also lists the following as some of the more commonly found aspects of alumni portals:

- Provision of an online form for financial donation to innovative projects of the institution.
- Clubs throughout the country for local interactions among alumni geographically near.
- A lifelong email address connected to the institution.
- Event photos for sale at cost price.
- Online form for feedback about the site.
- Disclosure of some statistics about alumni: programs, the alumni's gender, location, type of participation in the association and types of employment.
- Permission for visitors to register to the site to have access to some restricted areas.
- Displays suggestions for reading books written by alumni.
- A lifelong email addresses managed by Google. It includes the following features at no charge to the alumni: POP and IMAP email, 25 GB of storage, Google Calendar and Google Docs.
- Disclosure of data of alumni classes in the space "find my class", some classes have unique pages on social media sites such as Facebook, LinkedIn or Twitter.
- Lectures around the world, with differentiated prices for the alumni.
- It offers related institutions dedicated to facilitating relations between future students, current students and alumni.
- Online stores to sell products, such as t-shirts and souvenirs.

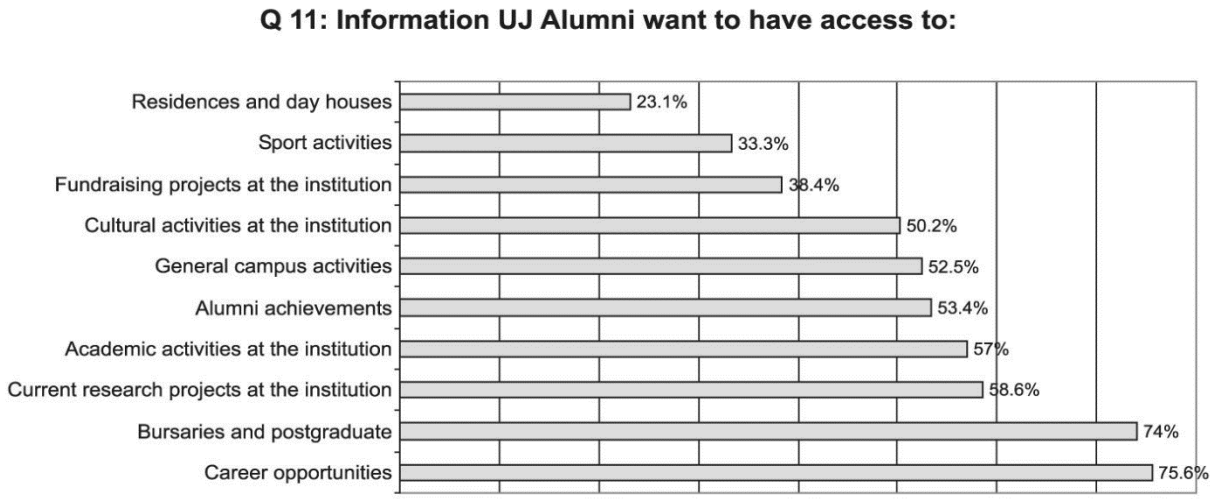
Gislaine Cristina dos Santos Teixeira, Emerson Antonio Maccari. (2014), Proposition of an alumni portal based on benchmarking and innovative process. JISTEM: 603-4

Additional Websites Containing Information on Alumni Websites

- CASE gives a large number of awards both at the national level and also at the division level. Some of these awards, such as in Division Two, specifically relate to alumni websites.

http://www.case.org/Award_Programs/Circle_of_Excellence/Previous_Winners/2015_Winners/Websites_2015.html

- Evertrue is a company that sells services that use web-based technology to help organizations raise funds. The company has been rating alumni websites within various athletic conferences. http://www.evertrue.com/blog/2015/03/04/alumni-association-websites/
- A study conducted by Barnard and Rensleigh (2008) looks at what alumni from several South African Universities would most like to learn from the Alumni website.



Bernard and Rensleigh (2008) also comment on the various aspects of the information wanted by alumni. For example:

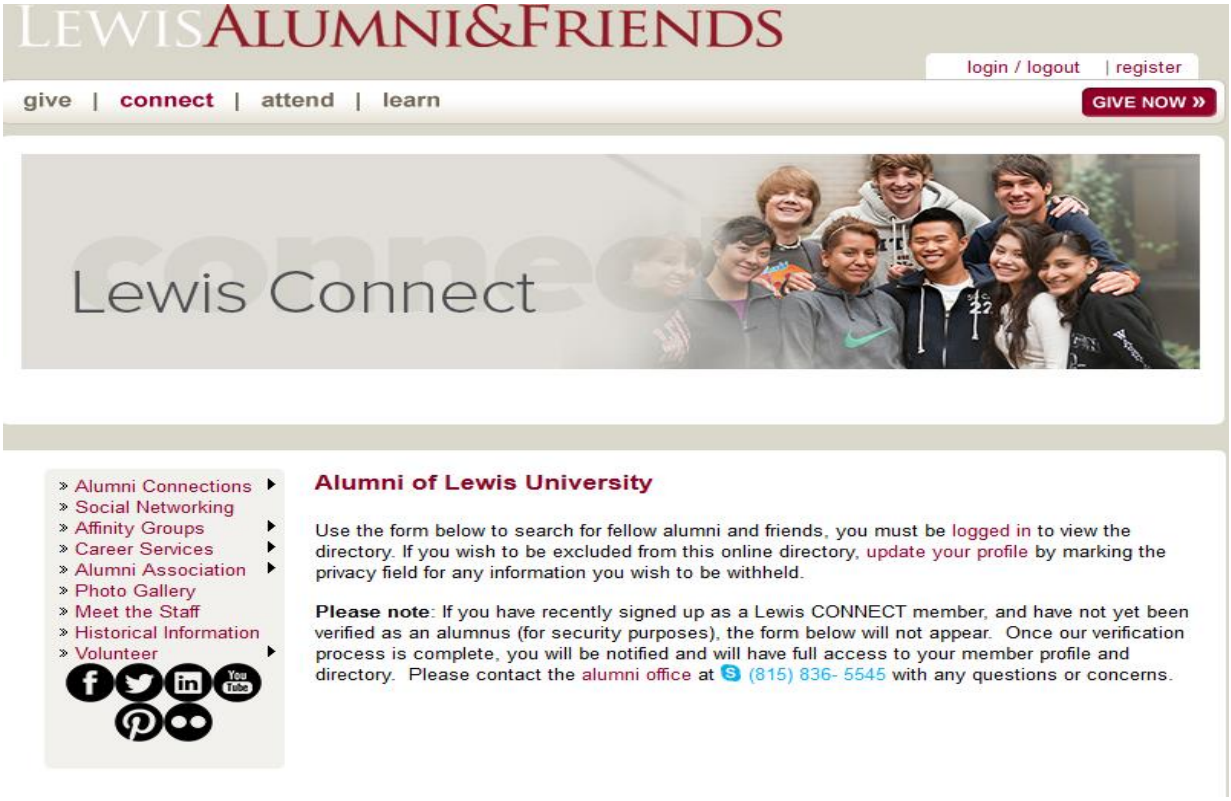
> The biggest proportion (63.9 per cent) of the respondents indicated that they want to interact and network with other alumni of the University of Johannesburg. This supports the vision of the UJ Alumni Association, which advocates a network of participating UJ alumni. It is also an indication of the fact that there is a similar interest amongst these alumni that can bind them together to form a community. In the light of the fact that the most preferred usage for the internet for this group is for professional interaction such as business networking, the networking need amongst alumni could be linked to the forming of business partnerships and mutually beneficial relationships with one another. The online community portal could be a helpful facilitator for this kind of social and business networking activity. (Barnard and Rensleigh, 2008, p 443)

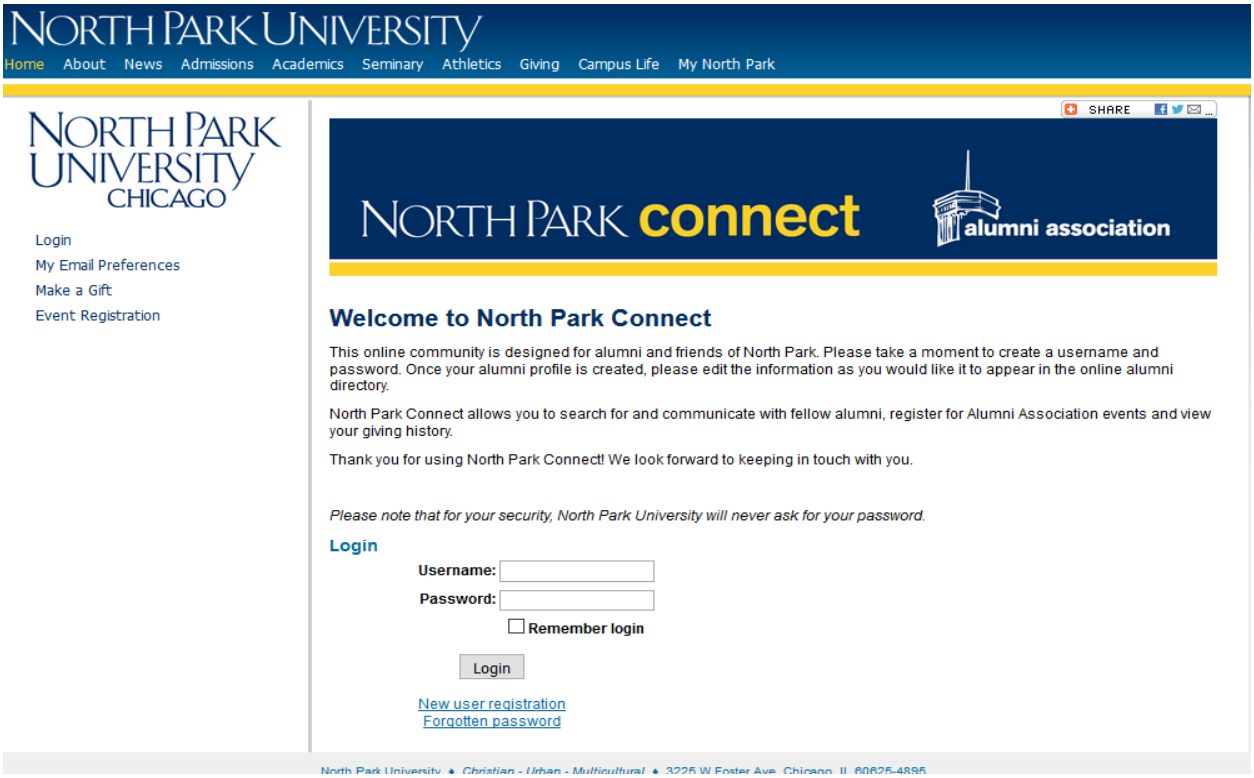
Zenia Barnard, Chris Rensleigh, (2008). Investigating online community portals for enhanced alumni networking. The Electronic Library, 26 (4): pp.433 – 445

2. Directories

One of the major uses of the restricted areas mentioned earlier is to provide a directory for alumni. This is a means to accomplish what Barnard and Rensleigh were referring to as a “community” by facilitating individuals identifying like-minded individuals. The issue with a directory is to determine the complexity that is desired. Is it simply a place to look-up individuals based on their last name or is it equipped with the ability to search for alumni with

specific characteristics – like live in Chicago, work for Cook County, are a president or Vice President, etc. The following examples are the websites of two local institutions who provide their alumni with the opportunity to look each other up. Both of these websites require membership with logons and passwords.





3. Communities

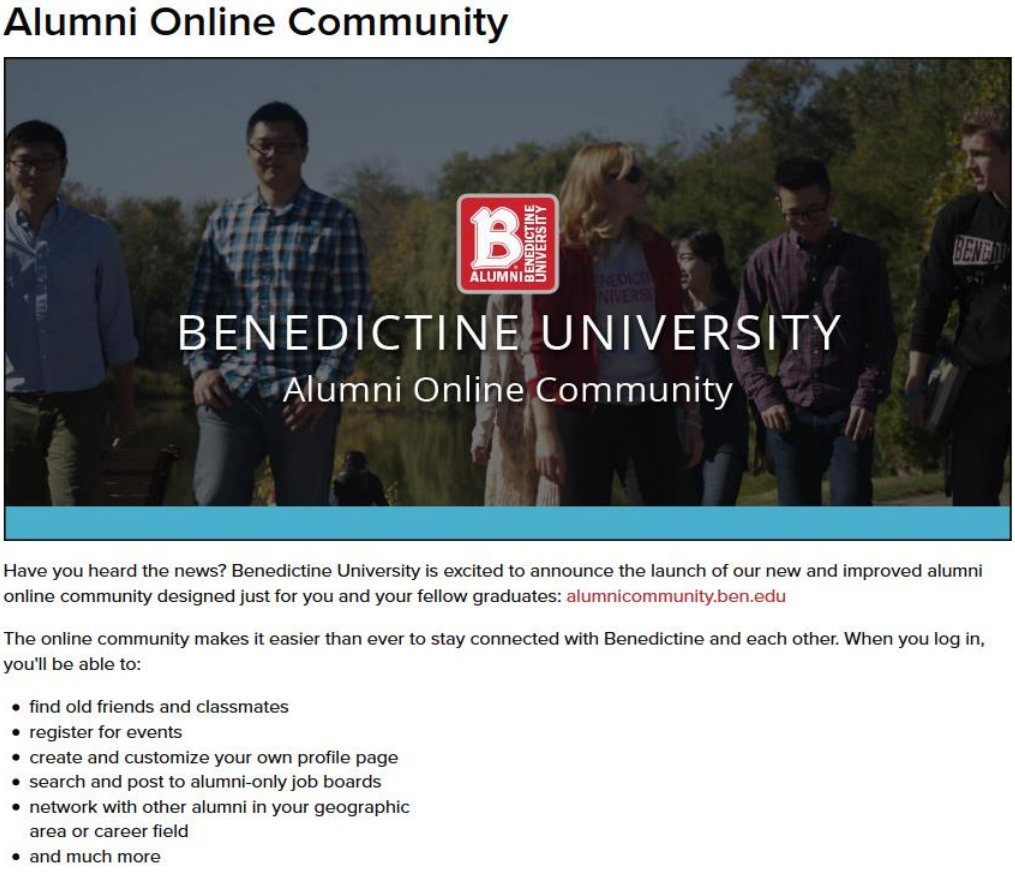
Brown (2001) argued more than a decade ago that the interface of the university and its constituents was evolving into a new model – the learning community:

Universities should move from a diode model to a dialogue model when it comes to interacting with alumni and the outside world.

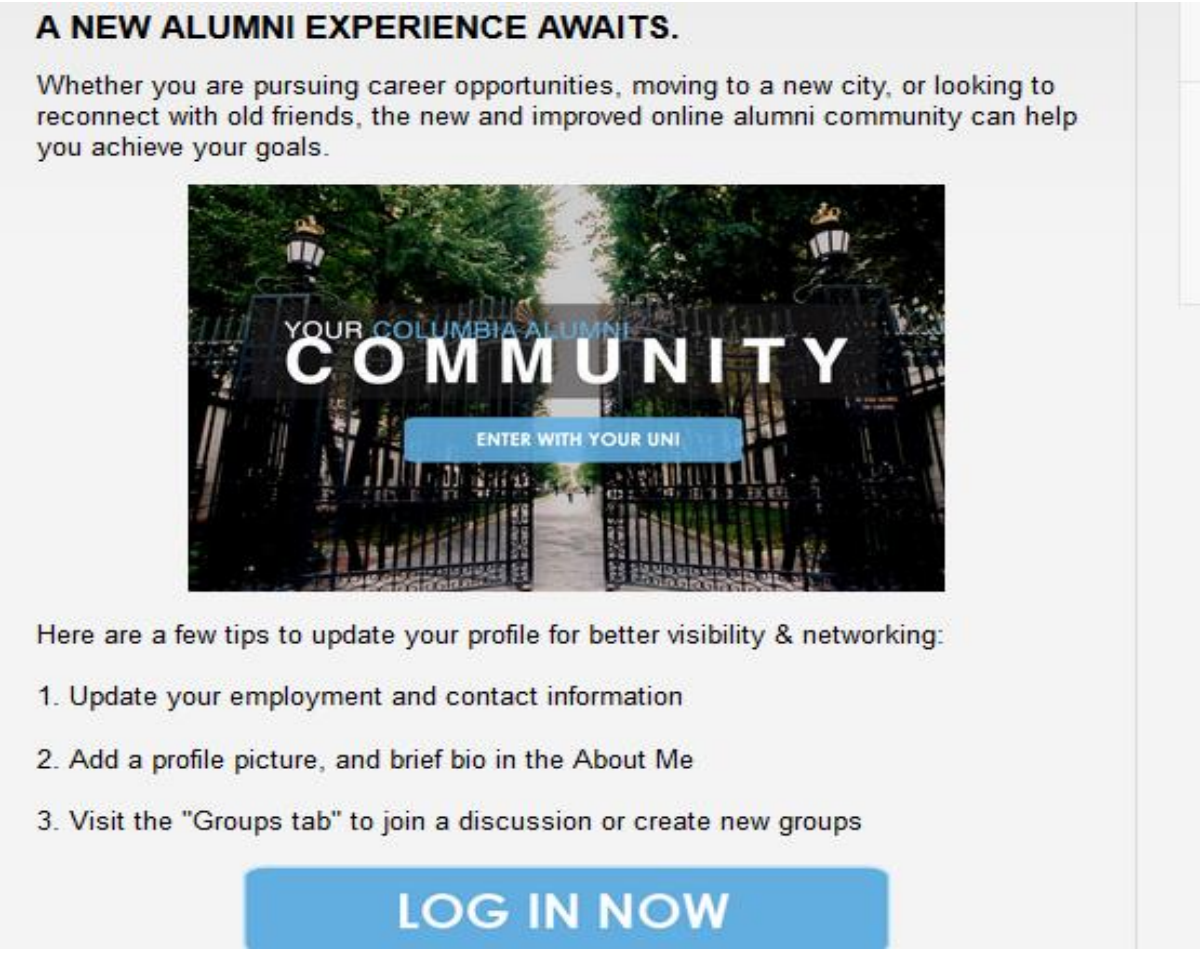
Learning networks, such as the one suggested above, go far beyond the usual broadcast variety of distance learning programs and differ in important ways from two-way interactive video conferencing. Learning networks resemble a virtual town, an open community in which each learner uses the network's resources as needed according to his or her learning styles, interests, and background. The network is supported by students, faculty, alumni, researchers, practicing professionals, retirees, and mentors, all seeking learning experiences and, in the process, contributing to the education of other participants. (Brown, 2001, p 83-84)

Brown, J.S. (2001) Learning in the digital age., The Internet and the university: 2001 Forum, M. Devlin, R. Larson & J. Meyerson (eds.). EDUCAUSE, Boulder, CO, pp. 71- 86

Example1. Benedictine University -- emphasizes to its alumni that they have an opportunity and the encouragement to form such a community.



Example 2. Columbia University -- Community building in New York:



https://alumni.columbia.edu/alumni-directory

To learn more about these communities, go to http://www.career.org/knowledge-center/publications/best-practices/upload/APSCU_BestPractices_Alumni_FINAL.pdf

4. Social Media

New forms of communication driven by social media have impacted perceptions of how to communicate and engage with alumni. Higher education institutions now acknowledge that young adults are relying on social media sites such as LinkedIn to navigate their careers. Similarly, Facebook is a common media for staying in touch with family and friends and possibly classmates. It is also becoming clear that older alumni are increasingly embracing these same communication strategies. As a result, institutions are adjusting their strategies for identifying and collecting needed information, including employment and accomplishments of graduates. These new technology and social media strategies represent a tremendous opportunity for "finding" alumni but also challenges an institution's ability to defend not only a current but also a reliable and valid database. Furthermore, redefining what it means to systematically collect data can be complicated. Social media enables an institution to get in touch with and follow-up on its alumni, but collecting the data still requires that an alumni choose to provide information. And, as noted earlier, the information received through these activities must be validated.

Internet technology and social media are impacting data collection initiatives in yet a second way. The connected students observed in today's classroom are the connected alumni that are choosing whether or not to stay

connected to the institutions from which they received degrees, much as alumni choose whether to respond to a survey. The way in which this will impact U.S. colleges and universities and their ability to collect data through social media is not yet fully understood. Still, it is clear that at least some alumni expect to maintain ongoing relations with their college or university through use of the internet and social media. A 2014 study of 20,000+ business school alumni worldwide (classes 1959-2013) reports that alumni participate in alumni activities by following the school on social media, visiting the alumni association website, and staying in contact with faculty, especially during the 5 years past graduation. Interestingly, when compared to other graduates, recent graduates were more likely to prefer email.

Internet technologies do provide possible opportunities for collecting needed alumni data. Institutions across the country are acting on this belief by moving toward creating lifetime relationships with alumni in the short term using social media under the assumption that these connections will lead to long-term benefits (e.g., life-long-learning, philanthropic support). However, though uncertainty surrounds whether institutions will realize the benefits from social media, many universities have embraced the use of their website to create engaged alumni communities. The assumption is that engaged alumni will be more likely to self-report and update their information.

APPENDIX B: NACE

Standards and Protocols for the Collection and Dissemination of Graduating Student Initial Career Outcomes Information

Guiding Principles

The standards described in this document reflect the guiding principles regarding the collection of graduating student career outcomes established by the NACE Board of Directors in July of 2012. Those principles include, in part, the following:

- Helping students achieve postgraduation career success is a critical element of the mission of the entire higher education institution.
- Higher education institutions should be focused on obtaining career outcomes information from all institutional graduates each year.
- The institution's career services organization should have an integral role—in collaboration with other institutional entities (e.g., academic departments, alumni relations offices)—in collecting and disseminating career outcomes information.
- Data collection protocols should be consistent with institutional human subject requirements, and the institutional research office should be aware of and involved with data collection as appropriate.
- Data may be collected from various legitimate sources (e.g., student survey responses; employer-, parent-, or faculty-provided information).
- Data collection should be ongoing, with final summary analysis being completed by six months after the graduation date.
- Outcomes information reports should provide aggregate data maintaining the confidentiality of individuals in accordance with institutional protocols involving these types of data.

NACE further encourages higher education institutions to pursue longer-term studies of the career progression of their graduates to better assess career outcomes over time.

APPENDIX C: VPI&SU: ADMINISTRATIVE DATA MANAGEMENT AND ACCESS POLICY (EXTRACTED)

Data Stewards are responsible for the following activities in their respective functional area/s. Data Stewards may delegate these activities to Data Experts, Data Managers, or others as deemed appropriate.

1. Establish procedures for defining and changing data elements within the operational systems.
2. Work with Information Technology and other Data Stewards to establish and maintain a university-wide Data Integration Model that describes the data entities of the University Enterprise Database (UEDB) and the relationships among these entities
3. Identify an official data storage location for each UEDB data element and for valid codes.
4. Work with Information Technology to determine data retention requirements and archiving strategies for storing and preserving historical operational data.
5. Work with Information Technology to insure that data element definitions and codes are consistent across all applications or that they conform to pre-established integration standards for code mappings and crosswalks between systems.
6. Assure data integrity, respond to questions about the accuracy of data, and correct inconsistencies.
7. Assure data collection is complete, accurate, valid, timely, and that data are maintained as close as is possible to the source or creation point of the data.
8. Set business rules regarding the manipulation, modification, or reporting of UEDB data elements and for creating derived elements.
9. Work with Information Warehousing and Access (IWA) to establish an informational database known as the Data Warehouse to store historical sharable data from the operational system-of-record.
10. Define standard views of enterprise data within the UEDB.
11. Work with Data Users to define useful and meaningful schedules for creating standard data extracts.
12. Provide data descriptions and other documentation of warehoused data to IWA in a standard machine-readable format for inclusion in a Metadata Repository
13. Specify the proper dissemination of UEDB data and security requirements by assigning each data element and each data view to one of the three access categories.
14. Work with Information Technology to define and document a single set of procedures for requesting and authorizing access to limited-access data elements.
15. Work with Information Technology to monitor and periodically review security implementation and authorized access.
16. Work with Information Technology and others to define and implement procedures that assure data are backed up and recoverable in response to events that compromise data integrity.
17. Work with Information Technology to provide effective user support through documentation, training and consultation.

http://www.policies.vt.edu/7100.pdf