

Utah Valley University

Digital Transformation Task Force Report

April 23, 2019

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1. Introduction

Utah Valley University (UVU) is a major contributor to Utah Valley’s academic development and economic growth. The University is extraordinarily responsive to the region by adapting and adding programs, offering new degrees, embracing engaged learning, and serving ever-increasing numbers of students. Throughout its history, “student success” has remained the core value at UVU.

Amid enormous growth and diversification, UVU continues its commitment to student success by preparing students for work and life. Concurrently, the University must operate effectively and efficiently by embracing the challenges and opportunities afforded by new digital technologies, processes, and services. Recognizing that sustaining enrollment growth, diversification, and quality of education will be complex and require investments in people, business processes, and technology, President Astrid Tuminez charged a University-wide Digital Transformation Task Force to make recommendations regarding how UVU should proceed (see Appendix A). The Task Force’s work recognizes UVU’s distinctive history and culture, but also challenges the University to take advantage of adapting and, sometimes, reinventing how the University operates.

2. Task Force Members

- Wendy Athens, Office of Teaching and Learning
- Kathren Brown, Academic Affairs
- Karen Cushing, Academic Affairs
- Wayne Hanewicz, Integrated Studies
- Bart Jacobs, Advancement and Alumni
- Marilyn Meyer, Human Resources
- Jeff Olson, Academic Affairs, Chairperson
- Drew Royster, Student Government
- Andrew Stone, Enrollment Management
- Jill Taylor, Trustee
- Susan Thackeray, Technology Management
- Ray Walker, Information Technology
- Stephen Whyte, Marketing and Communications
- Ron Kraemer, Consultant

3. Digital Transformation

Digital transformation is the process of applying technology to fundamentally change how organizations operate and provide value to those served. Digital transformation requires an integrated enterprise approach to workflow, process, data management, technology, and culture.

As digital capabilities evolve, an organization’s work is distinguished by the ability to integrate workflows, processes, data and technology across the enterprise. This essentially means that every technology or service implemented can assume that the products, services and data associated with every unit’s work can be made available and applied in any other unit’s work.

Workflow: In the pre-digital world, workflow was generally a set of events in which paper was moved through an organization. In many cases, the data on the forms were never put into computer-readable format which made sharing information difficult.

Process: In the pre-digital world, process was generally confined to moving paper forms and to interactions between people who received or dispersed paper forms. The chain of custody of documents and data were limited because the data were generally locked into a format that was not easily shared or analyzed.

Information/Data Management: Until recently, data were generally more restricted for use within specific formats, applications and systems. It was generally difficult to use data from one process or system for multiple purposes across units.

Technology: In the past, the technologies applied to many systems and services were generally designed to work within an organization’s specific units or to address individual purposes. The processes were designed to meet limited objectives, the workflow was targeted on specific functions in the unit, and the data were applied to address the unit’s individual needs.

Culture: When undertaking digital transformation, an organization can increase operational efficiency, improve its services, develop new capabilities, drive innovation, and effectively use its data to identify new opportunities and deliver increasing value, but the transformation will likely only succeed if the work is undertaken with consideration to the organization’s culture, strategic objectives, and interdependencies.

Digital transformation is a massive undertaking that affects almost every aspect of the organization. There is not an “end-state” to digital transformation because organizations and technology continually evolve. Ensuring that all faculty, staff, students and other stakeholders understand the digital transformation goals and objectives and allocating the necessary resources to deliver and support the reimagined services are critical to success.

4. Student Success, Engagement, and University Operations

The commitment to student success at UVU informs and guides all that UVU does and will continue to do. UVU is committed to making it easier to interact with the University as students apply for admission, work to secure financial aid, register for classes, understand where they are in their work toward their degrees, seek career guidance, and successfully complete their work at UVU and join the workforce or advance in their careers. Ultimately, the focus must be on reducing the time students spend on activities

outside learning. The task force believes that if UVU is responsive to each student’s needs, UVU will improve retention rates, increase graduation rates, optimize time to graduation, reduce costs, and make each student’s experience at UVU the best that it can be.

Engaging with faculty, students and staff to ensure that they understand the “why” of the digital transformation effort will help motivate the campus to action. Communicating the context, vision, and anticipated outcomes must be done in every phase of the program. In doing this, it is vital to consider the institution’s culture in all aspects of the digital transformation effort because culture will have the greatest impact on the process.

Digital technologies will help the campus run more efficiently and effectively by reducing manual processes, better coordinate administrative activities, transform campus services, and use information to enhance decision-making.

Digital transformation embraces both responsiveness to immediate needs that address University services and the longer-term foundational activities that will serve the University well for years to come as more digital capabilities are implemented. The Task Force recognizes that it is important to undertake projects immediately to better serve UVU’s students, faculty, and staff but also encourages the University to invest in strategic initiatives so changes can be sustained over longer periods of time.

5. Foundational Strategic Challenges

5.1. Change Management

Researchers have found that change management is one of the primary factors in any successful digital transformation effort. Faculty, staff, and students will be included in planning and implementing the processes, tools, and techniques to manage the people side of change. Applying the concept of “include, engage, achieve” should be at the center of UVU’s digital transformation effort. It will be critical to find the right balance between program design and development and engaging the faculty, students and staff to ensure that every person is prepared to take advantage of the benefits of digital transformation.

The change management program will also help UVU assess its readiness to make major organizational shifts in conducting operations. UVU has already adopted several cloud-based platforms to take advantage of innovative, reliable, and scalable services (e.g., Office 365, Canvas, and Qualtrics), but as more solutions and services are moved to the cloud, institutional readiness to adapt to the new operating models must be persistently assessed and adjustments must be made. Preparing and supporting faculty, students and staff to skillfully and appropriately use the new tools and investing in technical staff to expertly support the campus will help ensure success.

5.2. Common Enterprise Platforms

As UVU grew and diversified, units purchased and deployed many technology platforms that met their individual needs. This focus on local optimization is common across higher education, but as digital technologies evolve, myriad localized solutions hamper a university’s ability to operate effectively and efficiently. When unnecessarily duplicative systems are deployed, the number of software licenses, the amount of storage, the number of servers, the cost of completing and supporting integrations, the complexity in supporting myriad systems and applications, the distribution of inaccessible data, and the staff costs associated with supporting and training users, maintaining systems, performing upgrades, and supporting maintenance are all exacerbated. In addition, staff expertise is diluted because staff must attempt to be expert on too many systems and work with too many different vendors. When UVU implemented Banner and other core systems, existing business processes were imposed on them making them less effective, harder to integrate with other systems, and more difficult to adapt and upgrade.

5.3. Communications

Effective communications are at the heart of almost any successful digital transformation effort. Technology can enable or interfere with communication. It can decrease or increase the need for meetings, emails, and other time-consuming communication practices. Clearly conveying the correct information at the right time, using the appropriate medium for the intended audience has become more complex as more meetings are convened and more communication vehicles are used.

At many institutions, more than a dozen communication platforms are employed for internal and external communications, confusing users, increasing costs, and fundamentally resulting in less than satisfactory communications. When messaging is not coordinated, the students, faculty, staff, alumni, donors, and friends will hear different things from different sources and they will become overwhelmed and frustrated by the volume of information and not know which source to trust or what action to take.

5.4. Information Driven Decision-Making

The ability to manage and use data and other forms of information is central to all UVU does. As systems and services evolve, incredible amounts of data are being produced, but too often they are siloed, not readily accessible, or incompletely or inaccurately analyzed. When decision-makers can access, trust and use data and other forms of information across all University systems and applications, they are better equipped to understand trends, predict outcomes, and make informed decisions.

5.5. Learning Platforms and Spaces

UVU is a teaching institution with a commitment to engaged learning in the classroom. Instructional technologies have been shown to increase student engagement in learning when thoughtfully selected, developed, and employed. In addition to excellent in-classroom experiences, students increasingly seek accessible, online offerings that deliver their education anytime and anywhere, which bolsters completion rates.

5.5.1 The Learning Management System

The learning management system can be leveraged to improve student success through innovative and effective course designs, progressive faculty development opportunities, and increased access to content, courses, and grades. As faculty become more skilled and confident in their use of Canvas and its associated integrations (e.g., Qualtrics and lecture capture [Kaltura]), students will benefit through greater access to engaging media-rich learning environments. Learning environments that leverage technology to personalize/adapt content and assess learning will better support student success and faculty will benefit from intelligent grading tools.

Delivering and supporting a standard set of enterprise teaching and learning tools, embracing an effective quality assurance process, and measuring outcomes associated with student success are critical in accomplishing these goals. In addition, helping faculty and the academic staff who support them excel at using new tools and approaches to develop and deliver high-quality courses in on-line mediums is essential.

5.5.2 Learning Spaces

UVU has worked diligently to support students who rely on smart phones, tablets, laptops and other technology that benefit their education. As engaged learning needs continually advanced, UVU has:

1. Expanded WiFi, in all indoor and most outdoor spaces so students use less cellular network data, allowing those with limited means to have excellent access while avoiding expensive data plans.
2. Built flexible learning spaces, equipped with computers and writable glass walls, movable furniture, and an abundance of outlets to give students access to quiet spaces for group study or faculty collaboration.
3. Deployed standing and ADA-compliant desks, charging lockers, and quick-charge stations in hallways to better support mobile technology needs of students who commute to campus each day.
4. Equipped all new classrooms with teaching consoles, computers, projectors, and sound systems and designed the rooms so lecture capture, large-screen wall displays, and other options can be easily installed or updated as technologies evolve.

5. Deployed numerous “experimental” classrooms to better support engaged learning across the University.
6. Worked with the Library to establish the “Digital Learning Center,” which relies heavily on cloud subscriptions for access to materials students can access anywhere.
7. Equipped the Student Wellness Center with technology-enhanced “play areas” where students can enjoy video games individually or in groups.
8. Employed a shared services model to help faculty and students take advantage of technological changes.
9. Collaboratively worked with staff and faculty across campus to pilot initiatives that increase student access outside standard learning spaces.

5.6. Business Process Analysis

Business Process Analysis is a methodology for understanding the operational processes and improving the efficiency and effectiveness of the institution. It describes the processes involved, groups participating, information exchanged, and documents produced. As organizations adopt new digital technologies and systems, it is critical to understand if the existing workflows and business processes align with the way the new tools are designed to work. If the existing business processes do not match the way the new product is designed to work, it is important to consider changing the business process or selecting a different product. It is also important to be open to re-engineering business practices to take advantage of new technologies and to recognize that each college or business unit may have unique needs that must be considered.

5.7. Governance (Business Process and Data)

Governance is a central component of digital transformation. University operations are profoundly affected by faster business cycles; more integrated processes; the production of vast quantities of data; new security and privacy challenges; evolving student, faculty, and staff expectations; and legacy application accommodation needs. Individual unit operations must align more closely with University-wide needs to process massive amounts of data, address interoperability expectations, and achieve service responsiveness. Fundamental governance processes need to be reviewed and adjusted (sometimes reinvented).

Today’s data consumers are much more sophisticated, and data are expected to be much more available. Clarity, transparency, and accountability concerning data ownership are essential so both data stewards and data custodians can operate effectively. Data governance should make data more accessible to those who need it, facilitate timely and appropriate information delivery, and consistently apply intellectual property rights to the use all data.

5.8. Digital Workflow

In most universities, data are stored in myriad formats, some paper and some digital. Historically, there was very little integration among the sources or systems. In addition, universities have management silos and disconnected processes, inadequate data governance, and workflows that keep information from being used effectively across the institution. As a University grows and advances in the digital world, all of these workflows must become connected, transparent, and enriching for the students, faculty, and staff, balancing the user experience with institutional security and data privacy. Curtailing the use of paper can also reduce expenses and, more importantly, move the University toward achievement of its sustainability commitment.

5.9. Talent Management

Effectively supporting and using rapidly evolving technologies and services requires constant attention to developing skills and fostering a culture of continuous learning. The most effective programs embrace learning as a normal part of the workday. It is essential to make investments to effectively train faculty, staff, and students in using and supporting the systems and services. Investments should be made in training and support programs that help faculty, students and staff understand how to use applications as seemingly simple as email to all efforts that have all of the complexities of applying new pedagogies in teaching with evolving digital tools.

5.10. Cloud Migrations

Universities are finding that moving the appropriate services to the cloud can reduce costs, increase staff productivity, enrich user experiences, improve service availability, and enhance security. The key is to find the appropriate set of circumstances that confirm readiness to move and the right value proposition to make the move a success.

UVU has been consistently moving applications and services to cloud platforms over the past three years (see Appendix D). For new systems and services, UVU's strong preference has been to purchase cloud-based software as a service (SaaS) solutions on all new solutions. If SaaS is not available or is not a viable option, then UVU has implemented the solution in a virtual environment in its data center that can be more easily migrated to the cloud at a later time. In situations where there is no other option, services have been implemented on premises.

In working to understand the viability for moving existing systems and services to cloud platforms, UVU has been evaluating the technical feasibility, financial viability, and user experience requirements. The greatest opportunities present themselves when there is a change to the vendor providing the solution, a new product is procured, new hardware is needed, or a major system upgrade is warranted.

6. Task Force Recommendations

6.1 Common Enterprise Platforms

Common enterprise platforms are systems, services or applications that are adopted as a standard in every unit across the University. UVU already has a portfolio of products that are used or being considered as enterprise platforms (e.g., Canvas, MYUVU, Qualtrics, Salesforce, Microsoft Teams, Office 365, Digital Measures).

UVU also has many products that replicate what the enterprise products do. Deploying multiple products that essentially overlap in capability or replicate capability incurs unnecessary costs and weakens service support.

6.1.1 Strategic Recommendations Related to Common Enterprise Platforms

1. Undertake an assessment of all software, services, and applications deployed at UVU to better understand the extent to which systems or services are unnecessarily replicated.
2. Consider putting a purchasing moratorium in place while the inventory and analysis are being conducted.
3. Inventory all enterprise tools and systems, including what the tools are used for, who owns them, who uses them, who is served (individual, department, division, enterprise, etc.), when the tools were adopted, if the tools are fulfilling the intended need, and what the onetime and recurring costs are.
4. Identify a core portfolio of applications that will serve as UVU’s key enterprise systems, brand the applications, advertise their availability, train people to use them, and reward people for innovating with them.
5. Product selection should be based on the best overall return on investment rather than just cost.

6.1.2 High-Impact, Near-Term Recommendations Related to Common Enterprise Platforms

1. Ask University leaders to commit to using enterprise systems whenever possible.
2. Create or fine-tune an easy-to-use proposal template that individuals complete to request a new application or service and ensure that requests can be reviewed in a timely manner.
3. Develop guidelines for selecting, implementing, operating, and discontinuing systems to maximize effectiveness and convenience and reduce costs.
4. Publish information about the systems that are recognized as enterprise platforms and ensure that users have access to training programs.
5. Ensure that users understand which systems are not supported and why (cost, security concerns, poor user experience, antiquated technology, etc.).
6. Ensure that systems considered for enterprise deployment adhere to the University’s accessible technology standards and procedures that reflect legal

obligations imposed by federal and state law and recognized best practices (UVU Policy 452).

7. Provide guidance to faculty and staff regarding how to work with sales representatives or direct the representatives to the appropriate UVU contacts.
8. Initiate discussions with the Utah System for Higher Education and Council of Presidents for migration plans to a new Enterprise Resource Planning System (ERP) [Banner Replacement] in 3-5 years with a state-wide implementation for savings.
9. Leverage the current ERP as much as possible by revisiting business process decisions and tackling existing problems based on University priorities using integrations and avoiding customizations where possible.

6.1.3 High-Impact, Near-Term Recommendations Related to Customer Relationship Management (CRM)

UVU should adopt a single enterprise Customer Relationship Management (CRM) system and rebrand it to describe its value to UVU rather than its product name (e.g., “UVUEngage”). As work on Salesforce proceeds, work should be done to:

1. Ensure that Salesforce works effectively across UVU, not just within specific units.
2. Work to integrate Salesforce into existing and future business processes.
3. Create a university-wide implementation plan to guide how UVU will implement, fund, and support Salesforce.
4. Publicize the availability of Salesforce and the value it will serve.
5. Specify who is responsible for Salesforce support and administration.

6.2 Communications

In the digital world, anyone can communicate with anyone else at any time. For individual relationships, each person’s willingness to engage with the other person influences how communications are managed. On an organizational level, communication becomes a much more complicated set of issues - there are “senders” and “conveners” and “recipients” and “attendees.” Senders control what is sent, how the information is conveyed and how often the information is communicated. Conveners call meetings and determine the location, timing, number, and medium used (in person or on-line).

In many cases recipients are challenged to know what is important and are often overwhelmed by the amount and types of information they receive. Attendees arrive at meetings often wondering what the value proposition may be.

6.2.1 Strategic Recommendations Related to Communications

The Task Force recommends that UVU establish a group of faculty, staff, and students to recommend best practices in written communications, web postings, social media, and meetings.

The assessment should review:

1. The numbers of times entities within UVU communicate with its faculty, students (prospective, admitted, and enrolled), staff, and alumni.
2. The governance for approving who is contacted and how often information is conveyed.
3. The tools used for communications (e.g., e-mail, MyUVU, surveys, texting, real-time video, social media, and voice systems), and other collaboration platforms (e.g., Slack, Microsoft Teams, Box).
4. The potential to implement a standard set of communications tools for email, chat, and voice.
5. The possibility of creating a personalized place within MyUVU where people can “opt-in” to find what they need.
6. The University will provide consistent training and then rely on each unit to work with their faculty and staff to ensure adherence to the best practices.

6.2.2 High-Impact, Near-Term Recommendations Related to Communications

1. Establish protocols for conveying if action must be taken by the recipient or if the communication is just informational.
2. Rebrand a suite of enterprise communications tools to help faculty, staff, students (prospective, admitted, and enrolled), and alumni understand and influence how they would prefer to be contacted.
3. Work with recipients to test virtual meeting tools with cross-functional teams.
4. Assess the capabilities of emerging tools.
5. Conduct seminars on “best practices in meetings” to better understand the number of meetings needed and the way the meetings are managed (e.g., meetings should have agendas and those invited should understand the purpose and intended outcomes).
6. Work with student, faculty, staff, and alumni groups to understand their communications preferences.
7. Coordinate all communications with potential donors and alumni through one organization to ensure that those contacted are not burdened with multiple requests or solicitations.
8. As UVU implements new mobile applications, engage students directly to better understand how they use mobile devices in their academic and social endeavors.

6.3 Information Driven Decision-Making

Because the ability to manage and use data and other information are central to all UVU does, emphasis should be placed on ensuring that decision-makers can access, trust

and use data and other information across all University systems so they can understand trends, predict outcomes, and make informed decisions.

6.3.1 Strategic Recommendations Related to Information Driven Decision-Making

1. Establish a formal University-wide information management program with a goal to make UVU an “information-enabled University” in which those who need access to information to make decisions have that access.
2. Provide clear definitions for all institutional data (a data dictionary).
3. Identify meaningful metrics for UVU that could be used to measure success across all areas of the University.
4. Identify data sources and understand how data are being used as they are applied across the University.
5. Assign stewardship and access rights and responsibilities for all shared data.
6. Measure and document data quality in all of its uses and applications.
7. Establish secure enterprise repositories and document the storage location(s) of all UVU data.
8. Create usable access to UVU information for decision-making.

6.3.2 High-Impact, Near-Term Recommendations Related to Information Driven Decision-Making

1. Pilot data analytics projects in academic units, Human Resources, Finance, and other organizations that may benefit from access to data in their decision-making.
2. Work to increase data literacy across campus, placing the tools in the hands of more people.
3. Train faculty and staff in using new data management and visualization tools.
4. Invest in technical staff to support new projects and users in receiving information in the format users want and in the timeframe they need.
5. Continue to improve sophisticated, relevant-time access to the data or reports that meet academic and administrative needs, while protecting UVU’s privacy and security requirements.
6. Increase the use of the library as an information resource that goes beyond data with its repository of research on higher education practices, past UVU practices and other relevant information to guide decision-making.

6.4 Learning Platforms and Spaces

Even though the classroom experience will always be central to what UVU does, students seek accessible, on-line offerings and hybrid learning experiences that accommodate their needs for flexible schedules unbound by time and place. At UVU, on-line learning experiences are desired by students, as they seek out classes offered in varied modalities that create a cohesive and flexible learning experience. This emerging model of learning challenges universities to foster independent learning and collaboration, as well as provide more channels of communication among students, instructors, and those providing support.

6.4.1 High-Impact, Near-Term Recommendations Related to Canvas

Although many faculty and students use Canvas, UVU’s enterprise learning management system, Canvas can be leveraged to deliver more capability.

Additional work should be undertaken to:

1. Increase faculty competence and confidence in using Canvas and its integrated systems including Kaltura (video delivery) and Qualtrics (collecting and analyzing data).
2. Increase Canvas gradebook usage.
3. Leverage the data captured in Canvas to advance student success.
4. Engage faculty in innovative, evidence-based instructional design and delivery to advance student success.
5. Mandate a Canvas Orientation for on-campus students and an Online Student Success Tutorial for online students.
6. Create opportunities for faculty to experiment with Canvas in delivering innovative, high-impact courses.

6.4.2 High-Impact, Near-Term Recommendations Related to Supporting Academic Units

1. Establish a consistent, enterprise-wide application form, process, and support to assist academic units that are requesting student-facing or faculty-facing software or platforms.
2. Expand the electronic Retention, Tenure and Promotion portfolio and annual review submission pilot used in Woodbury School of Business (other departments have begun using the annual review workflow system). In addition to the other benefits, this would enable faculty accomplishments to be recognized and shared more widely and systematically.
3. Create incentives for central IT and Academic IT to work closely together developing and implementing solutions.
4. Evaluate student success to improve quality of offerings and instruction.

6.4.3 High-Impact, Near-Term Recommendations Related to Classroom Scheduling

1. Work to increase efficiencies by providing data to guide departmental schedulers and the faculty scheduling committee.
2. Automate class scheduling and classroom assignment.
3. Increase access by implementing innovative on-line and hybrid offerings.
4. Continue to improve access and persistence in course offerings.

6.4.4 High-Impact, Near-Term Recommendations Related to Physical Learning Spaces

As UVU continues to work to provide students with access and technology that benefits their education, focus should continue on:

1. WIFI deployment and support for mobile applications and technologies.
2. Continued investment in flexible learning spaces for group study and collaboration with faculty members.
3. Development or renovation of physical spaces and equipment that support a growing commuter student presence.
4. Readiness for classrooms to use emerging engaged learning technologies.
5. Collaborative initiatives with faculty that increase student access and learning opportunities outside traditional learning spaces.

6.5 Business Process Analysis

As organizations adopt new digital technologies and systems, it is critical to understand if the existing workflows and business processes align with the way the new tools are designed to work. Organizations must be willing to adapt business processes to new systems rather than modifying or retrofitting the systems.

6.5.1 Strategic Recommendations Related to Business Process Analysis

1. Work to find the right balance between academic freedom and administrative efficiency as faculty, staff, and students are engaged.
2. Revisit “how we decide?,” “who is engaged?,” “what are the risks?,” “what are the costs?,” “how willing are we to change existing processes?,” “what is the approval process?,” “how are priorities set?,” and “who has the right to decide?” before new software, technologies, or services are purchased or before resources are committed to implement and support the products or services.

6.5.2 High-Impact, Near-Term Recommendations Related to Business Process Analysis

1. When best practices at UVU are identified, invite faculty, staff, and students to tell others why this is a best practice and how they could enjoy an advantage by adopting the practice.
2. As new enterprise-wide digital technologies are considered, work with the people who understand their business objectives and people who understand the technology and how various technologies work together.

6.6 Governance

A key to success will be revisiting existing governance processes and legacy system accommodations as University operations experience faster business cycles, more integrated processes, the production of vast quantities of data, new security and privacy challenges, and evolving campus expectations.

6.6.1 Strategic Recommendations Related to Governance

1. Work to create strategic partnerships between the central Information Technology group and each organization considering adoption of new digital technologies.
2. Establish a shared management and governance process for assessing needs, requesting resources to support the needs, fulfilling requests, and providing support.
3. Establish an “Executive Guidance Council” for the University that would oversee enterprise-level technology investments. This council would be chaired at the President’s cabinet level with faculty and staff representation from across the University.

6.6.2 High-Impact, Near-Term Recommendations Related to Governance

1. Consider University IT representation in the President’s Cabinet.
2. Ask faculty to present products they want to use in their classroom to the Academic Technology Steering Committee.
3. Ask faculty to help reformulate the processes the Academic Technology Steering Committee can use to best address faculty needs.
4. Convene a bi-annual “IT Summit” in which University divisions submit proposals for projects and follow up with prioritization of the existing and new projects for the next 6 months to 2 years.
5. Develop an annually approved IT Strategic Plan (approved by President’s Cabinet and circulated across the institution).
6. Align IT organizations to ensure that central IT, IT units in specific colleges or business areas, and IT units dedicated to specific types of work are appropriately organized to help support digital transformation initiatives.
7. Develop recommendations to guide when existing technology is used, when cloud-based platforms are acquired, when integrations are needed, and when systems need to be built.

6.7 Digital Workflow

As a University advances in the digital world, its workflows must become connected, transparent, and enriching for the students, faculty, and staff. The processes used must be revisited and the technologies implemented must support enterprise use of the information collected and processed.

6.7.1 Strategic Recommendations Related to Digital Workflow

1. Convene a group to review evolving digital workflow needs, including the tools that could be used for content creation and captioning.
2. Establish a program to ensure that after data are entered once, they are automatically populated in other systems that need those data.
3. Focus on not just digitizing but automating, simplifying, and leveraging digitization of workflows, processes, and data.

6.7.2 High-Impact, Near-Term Recommendations for BOTs and Automation

BOTs are autonomous, automated assistance programs that run on networks (especially the Internet) that can interact with computer systems or users to perform simple and repetitive tasks that are time-consuming, mundane, or impossible for humans to perform. UVU is currently evaluating BOTs in pilot projects in Financial Aid, Human Resources, and the Service Desk.

1. Financial Aid will implement a BOT pre-populated with financial aid data to achieve immediate service results.
2. The pilots in Human Resources and the Service Desk will use some prepopulated data, but will also use a BOT in which the majority of the information must be populated into the application.
3. The BOT pilots will service student, staff, and faculty needs.
4. The pilots will evaluate automation, proficiency to consume knowledge bases, capacity to use Artificial Intelligence and Natural Language Processing, and the ability to interface with existing systems, including live chat and web search.
5. Users will interact with the BOTs using voice, chat, text, email, social media, or web interfaces on the device of their choice.
6. The ideal solution should be easy to build and maintain, efficient for knowledge building, track unanswered requests for system improvement, use AI to both extrapolate answers and to help populate the knowledge base, handle over 90% of questions when fully deployed, and connect users with service desk staff when the BOT cannot satisfy the request.
7. After the pilots are completed, findings will be reported to the IT Oversight Committee as well as other groups for consideration of a campus wide standard.

6.8 Talent Management

Effectively supporting and using rapidly evolving digital technologies and services requires investments to effectively train faculty, staff, and students in using and supporting the systems and services. As the IT delivery service model evolves, the kinds of expertise and the number of people in specific types of positions will change. The size and composition of the IT team will be directly related to the types of services IT is asked to deliver.

6.8.1 High-Impact, Near-Term Recommendations Related to Talent Management

1. Assess current faculty, staff, and student user readiness for adopting new digital technologies.
2. Assess current technical staff readiness for supporting new digital technologies and operational environments.
3. Assess current IT roles and develop a roadmap of skills needed and the number of people needed in each of those roles.
4. Develop a talent management program focused on developing and maintaining the skill sets needed.
5. Consider use of more student workers or student interns in supporting faculty and staff in effectively using emerging tools and services.
6. Invest in training and support programs that help faculty, staff, and students use applications that are adopted as University standard platforms.

6.9 Cloud Migration Strategy

As noted, UVU has been persistently moving applications and services to cloud platforms over the past three years. A consistent approach has been applied, but the strategy and roadmap have not been widely shared across UVU. Before implementation of any new cloud platform, create opportunities for faculty and staff to provide input and communicate the reason the change was needed and how the decisions were made.

6.9.1 Strategic Recommendations Related to Cloud Migrations

1. Use existing campus groups to provide guidance on the viability for specific applications and services to move to the cloud.
2. Develop and publish a strategic cloud migration roadmap and share the approach and strategy with campus.
3. Continue to refine and apply the evaluation criteria to assess the technical feasibility, financial viability, and user experience requirements.

6.9.2 High-Impact, Near-Term Recommendations Related to Cloud Migrations

1. Document the process for assessing cloud migration viability on all major services.
2. Develop and publish a detailed roadmap that clearly shows the timeline for the move of each major service that is being considered for deployment on cloud platforms.
3. In cases where it is not reasonable to move a service to the cloud, clearly communicate why the decision was made to not move the service.

6.10 Other Specific Areas for Consideration

6.10.1 High-Impact, Near-Term Recommendations Related to Machine Learning and Artificial Intelligence

Artificial intelligence technologies are beginning to show promise across higher education for student recruiting, student success, improving teaching efficiency and effectiveness, personalized and adaptive learning, connecting students with the job market, and achieving efficiencies in University operations. As AI-enhanced capabilities are being considered, UVU should:

1. Initiate conversations with students, faculty, administrators, staff, trustees, and policy makers regarding the value and challenges presented by AI.
2. Make investments to prepare to take advantage of breakthroughs in AI in higher education by implementing more digital workflows to capture data at its source, exploring data privacy and management challenges, exploring emerging AI technologies, and preparing faculty and staff to work in and support an AI-enhanced ecosystem.
3. Work to understand the cultural, technical, and organizational issues that will accompany the introduction of AI capabilities.
4. Because of the large investments needed in AI and machine learning research, consider partnering with the state, vendors, and other universities on projects that have shared objectives.

6.10.2 High-Impact, Near-Term Recommendations Related to Information Security

1. Ensure that emerging security standards are implemented in conjunction with new services, applications, and solutions.
2. Consider encryption, multi-factor authentication, and end-point security on desktop, laptop, and mobile devices as more information is used in digital formats.
3. As more data moves to cloud platforms, ensure that personal and sensitive data are protected and cannot be shared by the vendors.

6.10.3 High-Impact, Near-Term Recommendations Related to Qualtrics/Canvas Integrations

1. Establish a partnership including Qualtrics, Instructure (Canvas) and UVU faculty and staff to explore enhancing the student experience.
2. Ensure that data can be captured and harvested from Canvas.
3. Use data in Qualtrics to perform assessments.
4. Work with Qualtrics and Instructure to add features to their products that support UVU’s student success goals.
5. Work to continually enhance student and faculty feedback.

6.10.4 High-Impact, Near-Term Recommendations Related to a Review of Banner (Student, Human Resources, and Finance System)

1. Assess current Banner costs, capabilities, and services and perform a gap analysis to determine if the system is meeting UVU’s operational objectives.
2. Assess current Banner customizations and evaluate their effectiveness.
3. Perform a gap analysis to help UVU determine if the system should be replaced or if enhancements could be made to Banner so it can operate at an acceptable performance level.
4. Engage with other universities that are considering adoption of new student, human resources, and finance systems to better understand implementation costs and risks.
5. Review statewide implications if moving to a different product is being considered.

6.10.5 High-Impact, Near-Term Recommendations Related to Onboarding Processes

1. Conduct a comprehensive analysis of onboarding processes at the campus and unit levels (including academic units).
2. Work to reformulate onboarding processes with an emphasis on the faculty and staff member experience.
3. Address timeliness and responsiveness in the onboarding processes.
4. Identify all the decision-making principles and processes to ensure that the appropriate data are captured and can be shared and applied.

6.10.6 High-Impact, Near-Term Recommendations Related to Innovation

1. Embrace innovation as everyone’s responsibility.
2. Encourage collaboration with peer institutions directly and through organizations like EDUCAUSE and Internet2.
3. When new systems and solutions are implemented, use open standards and ensure interoperability with other campus systems.
4. Include student, staff, and faculty perspectives on every project to inject new ideas and perspectives.

7.0 Summary

Amid enormous growth and diversification, UVU continues its commitment to student success by embracing the challenges and opportunities afforded by new digital technologies, processes, and services. In this report, the Digital Transformation Task Force recognizes UVU’s distinctive history and culture, but also encourages the faculty, staff, and students to take advantage of adapting and, sometimes, reinventing how UVU operates. The Task Force respectfully submits these recommendations to the President, campus leaders, faculty, staff, and students to help UVU continue to deliver high-impact, near-term success, and sustained strategic transformation.

Appendix A

Digital Transformation Task Force Charge

Technology is transforming our lives, making possible new approaches to everything we do. It is transforming whole industries and has begun to transform higher education. There is much about higher education that should be protected while making full use of the new possibilities.

This task force is charged with exploring the possibilities for transforming UVU over the next 5 to 20 years to make it a leader in cost-effective, 21st-century higher education. UVU’s technology should lead to greater simplicity, productivity, and efficiency, while enabling creativity, innovation and student success. It should support the university’s primary mission of teaching, as well as engaged research and learning.

The committee will recommend principles to guide UVU’s transformation both in what should be preserved and what should be changed across a range of university activities: teaching and learning; engaged research; business processes (finance, HR, etc.); prospective student, student, and alumni communication and support; record-keeping and data analytics; physical space and resource planning; human capital/performance management; and donor and external relations.

**President Astrid Tuminez
January 14, 2019**

Appendix B

Draft Digital Transformation Guiding Principles

1. We will design a clear, compelling and forward-thinking digital transformation strategy that not only meets UVU’s current goals, unique challenges, and resources, but also prepares our University for the future.
2. Our strategy will be respectful of the differences among all members of our community as we construct a foundation that will help UVU both establish and sustain digital transformation.
3. We will work to adjust or augment existing approaches, processes, unnecessarily duplicative systems and organizational structures as needed to improve productivity, service levels, and user delight.
4. We will embrace simplicity, making it easier for students, faculty, and staff to accomplish their tasks and be successful in their endeavors as they use new digital platforms.
5. We will invest in our faculty, students, and staff so they can benefit from and contribute to our digital transformation.
6. When technology is needed, we will consider all viable options, including cloud platforms, off-the-shelf software, and customized solutions.
7. We will continually communicate across campus to help everyone provide input, to adjust to the changes and to understand how they will benefit from digital transformation.

Appendix C

Draft Task Force Guiding Principles

1. Vision and strategy will drive solutions, including approaches to business practices, technology selection, and governance.
2. Each task force member will represent the interests of the entire University.
3. In conjunction with University leaders, the task force will establish and guide the framework within which UVU’s digital transformation proceeds.
4. The task force will be guided by student success and the mission and core themes of our University’s five key institutional plans:
 - The Academic Master Plan
 - The Facilities Master Plan
 - The Strategic Inclusion Plan
 - The Completion Plan
 - The Strategic Plan for Managing Growth
5. The task force will focus on the most important and impactful campus-wide initiatives, balancing perspectives regarding processes, innovation, and technology.
6. The task force will have a strategic emphasis, focusing more on the 3-10-year timeframe rather than immediate projects.
7. The task force will be open-minded in engaging and collaborating with strategic partners from across the University to champion a culture of transparency, accountability, and communication on the path to digital transformation.

Appendix D

UVU Major Systems and Their Cloud Migration Roadmap Status

Systems currently running on a cloud platform

1. Microsoft Email & Office 365
2. Canvas (Learning Management System)
3. Box File Sharing/Storage
4. Civitas (Student Success Analytics)
5. Adobe Creative Cloud (Photoshop, Acrobat, etc.)
6. Video Conferencing Systems (WebEx, Skype, MS Teams, Google, Adobe Connect)
7. OUCampus (content management for web)
8. 25 Live by CollegeNet (campus scheduling system)
9. TouchNet Payment Gateway (takes credit card payments for the campus)
10. Raiser's Edge (development/advancement and fundraising system)
11. Terradotta International Software (manages international student information)
12. AcademicWorks (financial aid software for helping with processing)
13. PeopleAdmin (HR onboarding and job description software)
14. Backup of Banner System (partially on cloud platform)
15. Concur Travel
16. Wolverine Marketplace
17. The Data Cookbook
18. EverFi
19. OrgSync
20. Online Student Orientation System

Systems that are being evaluated for move to cloud platforms or which have a plan to move to a cloud platform

1. Citrix virtual machines and software system (virtual computer labs and virtual desktops)
2. Tableau reporting system (principle data reporting platform)
3. BMI Imaging/Document Management (document imaging, storage, and management)
4. TIMS (time and attendance system)
5. Palo Alto Next Gen Firewalls (provide layered security (cloud and on-premise))
6. VMWare virtual Servers (600 servers running various campus services including infrastructure components)
7. uvu.edu (UVU website)
8. Ellucian Banner (ERP system for student, HR, finance records)
9. SPAM Filtering (Microsoft level 1 and Fortinet)
10. MyUVU Portal (portal and Intranet for UVU business)
11. Alcatel Phone Switch (runs the campus phone system)
12. Mobile App (UVU mobile app (student focused))

Systems for which there are currently no plans to move to a cloud platform

1. Classroom AV Technology (projectors, computers, etc. for classroom teaching)
2. Network Infrastructure (connections for desktops, campus infrastructure, locks, etc.)
3. Wireless Infrastructure (connections for mobile computing devices)
4. Computer Labs (computers available on campus for teaching and use)
5. Athletics Video Storage (video storage for athletic events)

Appendix E

Faculty and Staff Comments Regarding Implementation

Section 5.1 Change Management

- "To help improve the level of 'trust,' reduce cynicism, and communicate more clearly among faculty and staff, allow those impacted by changes in tools, processes or procedures to have the opportunity to offer feedback before decisions are made and be involved in the roll-out."
- "Find the right balance between program design and development and engaging the faculty, students and staff to ensure that every person is prepared to take advantage of the benefits of digital transformation."

5.2 Common Enterprise Platforms

- "Assess and tweak platforms/services continually and without disruption to users."
- "Train and support faculty/staff/students to use tools so they will use the tools effectively."
- "Invest adequately in technical staff and the platform/program/service to ensure its sustainability. "

5.5 Learning Spaces

- "Requiring every class to have an online version may be counter productive to students achieving certain skills."

5.5.2 Learning Spaces

- "Invest adequately, from implementation to end-of-life, in technical staff, equipment, and the platform/program/service to ensure its sustainability."

6.1.1 Strategic Recommendations Related to Common Enterprise Platforms

- "Seek feedback from ALL units and users on software/services/applications at UVU, not just the largest or primary users. Don't forget to ask those who will be required to actually use the systems."
- "Do not rush a purchasing moratorium due to growth/change in programs and allow for emerging vital needs."
- "Make sure productivity and usability are considered in continuing current and adopting new platform/program/services."

6.1.2 High-Impact, Near-Term Recommendations Related to Common Enterprise Platforms

- "Add user priorities to considerations of ERP."

- “Provide guidance to faculty and staff regarding how to work with vendor representatives or direct the representatives to the appropriate UVU contacts or simply do not allow sales representatives to contact people outside of IT. Communicate this to faculty and campus through advertising, signage, etc.)”

6.1.3 High-Impact, Near-Term Recommendations Related to Salesforce

- “How do you want our pilot project to proceed? Additionally, it is clear given our pilot implementation that any additional stakeholder additions will be far beyond our department capacity – this is an IT project that should be held/led by IT.
- “Is there something more we should be doing that we are not currently as we get this pilot up and running in the next month?”
- “Review and revise implementation plan after Salesforce is piloted, but before it is institutionally mandated across campus, to take into account usability/ productivity.”
- “Specify who is responsible for Salesforce support and administration.”
- “Provide consistent funding for new personnel needs/equipment to run as enterprise system.”
- “Agree a new name should be selected and should resonate across the campus.”
- “Rebranding--It is a best practice on a lot of Higher Ed Campuses to brand the transformation of processes using Salesforce as a movement or project which aligns with the suggestion from the committee. Some examples include “Georgetown 360”, “One Utah” (U of U), Pacific 2020 (University of Pacific).”
- “Roadmap--If the university is interested in a true enterprise solution with Salesforce, a Certified Salesforce Customer Success Architect (CSA) is a great investment for road mapping how that implementation might take place. The highest levels of the university would need to resource such an implementation and Central IT would be only one element of the project as executive direction, policy change/creation and other important business elements also come into play in an implementation of this magnitude.”
- “Across Units--Integrating Salesforce effectively across units. While we are beginning this groundwork and trying to ensure that we do not create a ‘siloeed’ solution, understanding how our business processes need to change and working with other departments to look at their uses cases is a long-term project and we are just getting started. In our efforts to track external relationships, our early partners include Woodbury School of Business Graduate programs, Career Services, Institutional Advancement, Business Resource Center and University Relations. Each of these departments has their own data sources for external relationships and working on these shared contacts requires a lot of trust, open communication, and some strict guidelines for users (we are working on all of those things with the Integration Committee).“
- “Business Process Modeling--It is very important that if the investment is made to take Salesforce enterprise wide that the time and energy are put in to ensure that business processes are also examined. The easiest way to fail in an implementation of technology such as this is to make the platform perform in a way it was not designed to perform or to over customize the platform to conform to old business practices rather than modernizing the business processes....as the report states a few times.”

6.2.2 High-Impact, Near-Term Recommendations Related to Communications

- "Assess capabilities of emerging tools with consistency to avoid constant adoption to avoid "bouncing from required program to required program.""

- “Allow colleges/schools to communicate with potential donors and alumni, especially advisory boards and community members, with some decentralization, requiring "authorized" contacts to have training.”

6.3.1 Strategic Recommendations Related to Information Driven Decision-Making

- "Make sure information and data is consistent and reliable across units.”
- “Commit to funding for personnel responsible for data, especially as reliance upon data grows.”
- “Regularly monitor data quality and ensure funds are available to sustain monitoring.”
- “For bullet #3, ‘measure success across all areas of the University’ – would that be success related to data-driven decision making, or success in other aspect(s) of the University mission and/or operation (student success, etc.)?”

6.3.2 High-Impact, Near-Term Recommendations Related to Information Driven Decision-Making

- “Fund pilot products consistently.”
- “Fund training and materials for personnel, especially anticipated growth.”
- “Increase OTL staff to handle the additional workload when raising the bar.”

6.4.1 High-Impact, Near-Term Recommendations Related to Canvas

- "Fund training and materials for personnel, especially anticipated growth.”
- “Do not make using Canvas gradebook optional.”
- “Do not over-communicate, even in Canvas.”
- “Create perhaps a ‘reward’ system that encourages more involvement in additional learning opportunities (i.e., requirements to be included in special teaching invitations (new classes, new ‘types’ of classes/classrooms, etc.).”
- “Create a mandated entry level to technology integration courses or passing a technology integration test for students. This course could include Word, Canvas, email, PowerPoint, Excel, etc.”

6.4.2 High-Impact, Near-Term Recommendations Related to Supporting Academic Units

- “Provide required training in technical aspects, and personnel management skills involved in the RTP review process.”

6.4.3 High-Impact, Near-Term Recommendations Related to Classroom Scheduling

- “Provide required training, and involve those who perform class scheduling/classroom assignment duties (staff) in the decisions of any change to software or process.)”

6.4.5 High-Impact, Near-Term Recommendations Related to Physical Learning Spaces

- “Consistent funding for classroom equipment replacement/rotation, general maintenance on teacher consoles, creation of specialized learning environments, etc., is needed.”

6.5 Business Process Analysis

- “Make sure those performing workflows and business processes are involved in redesigns or new implementations.”

6.5.1 Strategic Recommendations Related to Business Process Analysis

- “Involve all stakeholders in decisions – students, faculty, staff and administration).”

6.6 Governance

- “Consistent funding should be part of any conversations. Change requires funding for personnel, equipment, maintenance, etc. Funding must be considered as a vital element to any planning.)”

6.6.1 Strategic Recommendations Related to Governance

- “Don't we already have these with ATSC and the IT Oversight Committee?”

6.6.2 High-Impact, Near-Term Recommendations Related to Governance

- "Don't we already have #2 in place with the ATSC?"
- “Isn't #4 already part of PBA?”
- “Would #5 apply at the college/school, division, or institutional level?”
- “Ensure consistent funding for growth.”

6.7.1 Strategic Recommendations Related to Digital Workflow

- "Isn't this ATSC and its related sub-committees?"
- “UVU needs a single source or point source of data.”
- “Improve communication about software available on campus.”

6.7.2 High-Impact, Near-Term Recommendations for BOTs and Automation

- "Be sure to consider and involve the appropriate decision-making stakeholders how this data/process will impact other UVU units (Advising, scheduling, etc.).”

6.8 Talent Management

- “Invest in training and support programs that help faculty, students and staff understand how to use applications as seemingly simple as email.”

- “Consistent funding will be necessary for design and implementation of training programs.”

6.8.1 High-Impact, Near-Term Recommendations Related to Talent Management

- “Must have clear method for assessing current faculty/staff/student user readiness for adopting new digital technologies.”
- “Must clarify consequences of passing/failing assessment.”
- “Unit managers, supervisors should be involved in developing a talent management program.”

6.9 Cloud Migration Strategy

- “Before implementation of a new service or application becomes mandatory, provide clear opportunity and platforms for feedback; communicate reasons for needed change and how decisions were made.”

6.10.1 High-Impact, Near-Term Recommendations Related to Machine Learning and Artificial Intelligence

- “Consistent funding needed for acquiring and maintenance of software, personnel, and hardware.”
- “Imperative that any sort of AI tool or process being used in this area is reviewed, discussed and endorsed by faculty senate and as many faculty as feasible.”

6.10.3 High-Impact, Near-Term Recommendations Related to Qualtrics/Canvas Integrations

- “Encourage faculty involvement and allow non-users to participate in discussions (task-force projects, etc.).”
- “Caution, there should be some policy around method of capture, who has access, how the data is used, how students are notified of the use of their data, etc.).”
- “Involve STUDENTS in SRI conversation. Consider gathering input throughout the semester – rather than just at the end of classes.”
- “Encourage participation in using the Student Rating Instrument by some sort of ‘reward’ – early registration privilege, etc.).”
- “Be aware of criticisms regarding the shortcomings of SRI data and the assumption that only the disgruntled and/or very happy students respond.”

6.10.4 High-Impact, Near-Term Recommendations Related to a Review of Banner (Student, Human Resources, and Finance System)

- “Involve those that use Banner data consistently (i.e. financial managers, admins over department budgets, etc.), in the Banner gap analysis.”

6.10.6 High-Impact, Near-Term Recommendations Related to Innovation

- “For #4, include staff perspectives, too, as they are often primary users.”
- “In terms of implementation of new software, if we encourage this point – do we openly ask for individuals to seek out information and then regulate them on how they use any new discovery they find? This could be a mixed message.”

Report Overall

- “Are the recommendations listed in specific order, or what would be the preferred implementation and processes prioritization? Each recommendation has multiple aspects, many requiring fairly time-consuming investigations of existing processes, and considering all of them occurring at the same time could be overwhelming to the system and its operation.”
- “A graphic representation that reflects relationships and common solutions between and within recommendations would help visualize connections and would direct optimization of resources. For example, digital workflow (6.7) and Information driven decision making (6.3) encompass large segments of most of the remaining recommendations. Recognizing and utilizing these connections as the recommendations are considered would impact positively implementation optimization.
- “Faculty reviews should be in a computer system such as the staff reviews.”
- “We need to have RFID tracking on equipment.”
- “Some workflow issues need to be moved from the Dean to others such as the Associate or Assistant Deans (e.g., course substitutions, curriculum approvals, etc.)”
- “The budget software is very cumbersome and not in “real-time.” People have to keep separate spreadsheets to manage the expenses.”
- “One of the challenges is to limit communications via email (but this is problematic due to so much change).”

Appendix D

“Engage with faculty who have special technology requirements to ensure continuity of teaching resources (e.g., Citrix Virtual Machines).”