Post-COVID Digital Task Force
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NC STATE
UNIVERSITY

MEMORANDUM

TO: Dr. Marc Hoit, Vice Chancellor, Office of Information Technology
            Charles A. Maimone, Vice Chancellor, Finance and Administration

FROM: Gwen Hazlehurst, Assistant Vice Chancellor, Enterprise Application Services
            Mary Peloquin-Dodd, Associate Vice Chancellor, Finance and University Treasurer
            Members of the Post-COVID Digital Task Force

SUBJECT: Post-COVID Digital Innovation Task Force Final Report

DATE: August 2, 2021

We are pleased to present the final report on the Post-COVID Digital Innovation Task Force. Thank you for giving us this opportunity to think about digital transformation at NC State. We had a fantastic task force, with people who were passionate about the topic. Each week we met to discuss the results stemming from our campus outreach, and we conducted a deep dive into a topic relevant to the task force's mission. Our accomplishments include (A) surveying [19 campus constituency groups](#) to identify high priority task force recommendations; (B) the publication of the first and second interim reports; and (C) developing the findings and final proposals provided in this report.

At NC State, and frankly in US Higher Education, we are at an inflection point. We not only have a proliferation of digital tools at our disposal, but we have all witnessed the transformative nature of digital technology during the pandemic. We have the collective, institutional desire to succeed in future-proofing NC State University through digital transformation.   Digital transformation requires four components to succeed: technology, people, process, and culture. Through our work with the task force, we believe all the technology and culture are possible, but successful change will require substantial institutional commitment and the right combination of people and processes.

Task Force Overview-

Through comprehensive outreach to various constituencies at NC State, and task force collaboration, we identified potential improvements in the digital landscape at NC State. Specifically through a broad communications effort, we reached out to various campus groups to identify possible areas of digital transformation at NC State. Through informal surveys, we identified and prioritized the process changes and digital tools people used during the Pandemic for expansion on campus. We also identified other processes/services that NC State did not employ during COVID, but could lead to digital transformation. Finally, we identified the challenges involved in implementing our top recommendations.

Task Force Membership

Our task force members served a valuable role and were committed to the charge as evidenced by their exceptional attendance and participation in task force meetings.

Task Force Members

1. Gwen Hazlehurst, Co-Chair

2. Mary Peloquin-Dodd, Co-Chair

3. Richard Berlin, Associate Vice Chancellor, Campus Enterprises

4. Richard Bonanno, Director of NC State Extension, Associate Dean, CALs

5. Dianne Dunning, Associate Dean, Advancement, College of Veterinary Medicine

6. Shawn Dunning, Assistant Dean for Finance and Operations, Wilson College of Textiles

7. Sharon Loosman, Director, Procurement and Business Services

8. Maggie Merry, Assistant Dean of Finance and Administration, PCOM

9. Ron Reed, Senior Director, Financial, Research Admin and Advancement Systems

10. Jill Sexton, Associate Director for the Digital Library

11. Tabitha Groelle, Business Officer, Finance Division

Given very limited faculty availability over the summer, we chose to include the Faculty Senate via survey instead of direct representation on the team.

Communications Strategy

We organized the team around the ability to communicate with each other and asked all members to reach out to their campus peers to seek feedback by having them liaise with one or more survey groups. We provided the liaisons with template emails and created Padlet surveys to be shared with the assigned groups. These Padlets allowed respondents to provide suggestions which others could then comment upon and/or "upvote," however, the Padlets were not shared across the 19 groups, so the "upvotes" may not be representative of the entire community surveyed. Also, we acknowledge that Padlet is a relatively new tool to some of the respondents and may have limited the upvotes or comments.

Guiding Principles

The task force discussed the below within the context of three guiding principles--important factors that

will drive our future success in digital transformation. We identified three key principles:
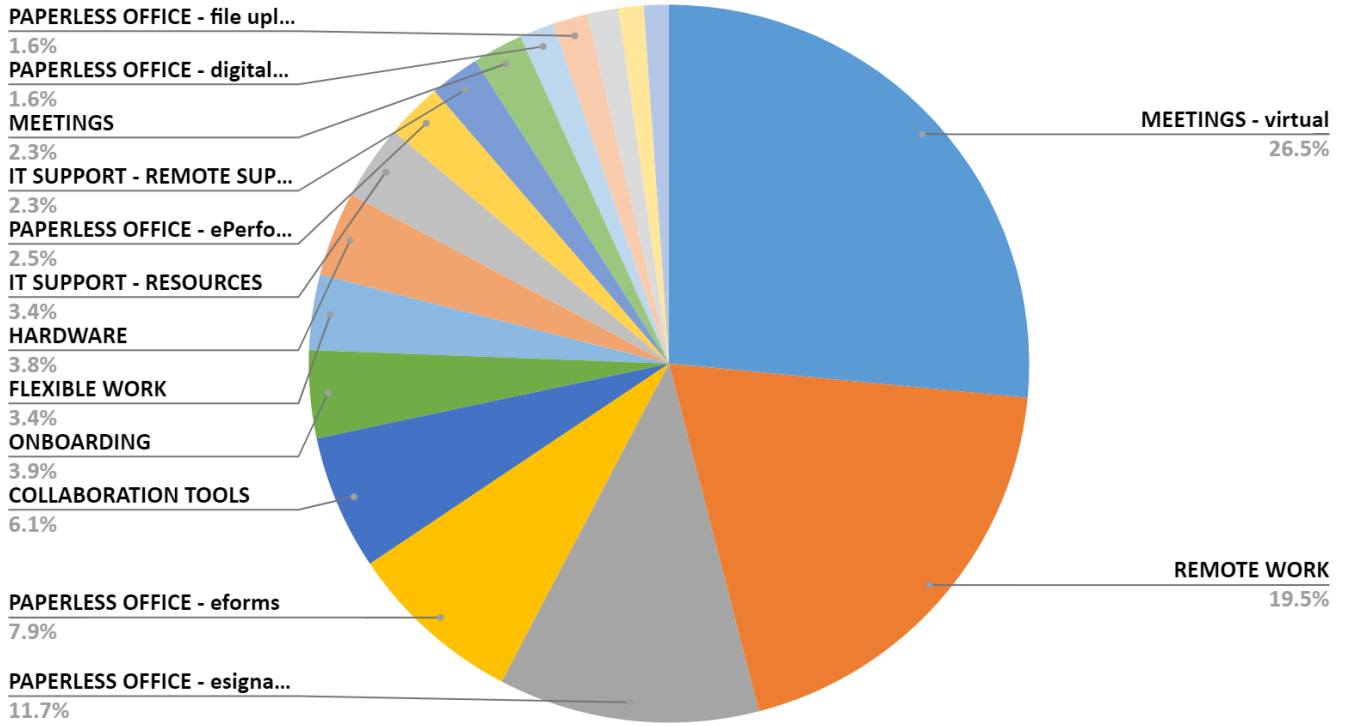
1. <u>Minimize Digital Sprawl.</u> The Task Force believes that the "local origination" of most electronic tools already on campus is creating digital sprawl at the university, which limits our ability to develop and negotiate enterprise-wide, lower cost solutions for many of our digital challenges. Therefore, wherever practical, solutions should be adopted centrally without creating a patchwork of tools and processes across the university.

2. <u>Centrally Provision Resources and Training.</u> If our efforts at digital transformation are to be successful, we believe that all units, regardless of resources, should have access to the same basic digital tools. Central provisioning of these tools is an important principle, along with increasing the awareness of the existing resources already available at NC State. However, awareness is not enough. People must also know that there is training available for all of the tools at our disposal.

3. <u>Select the Tools that Deliver the Best Value.</u> Various units at NC State, especially those with greater levels of resources, have created their own local solutions to answer challenging digital problems. These tools are often expensive solutions that could not be leveraged by the institution as a whole. However, familiarity bias is driving other users toward the same products, without considering whether there is a less expensive and/or more sustainable alternative. We must be mindful that the most familiar solution or the most expensive solution may not be the only, or even the best, solution.
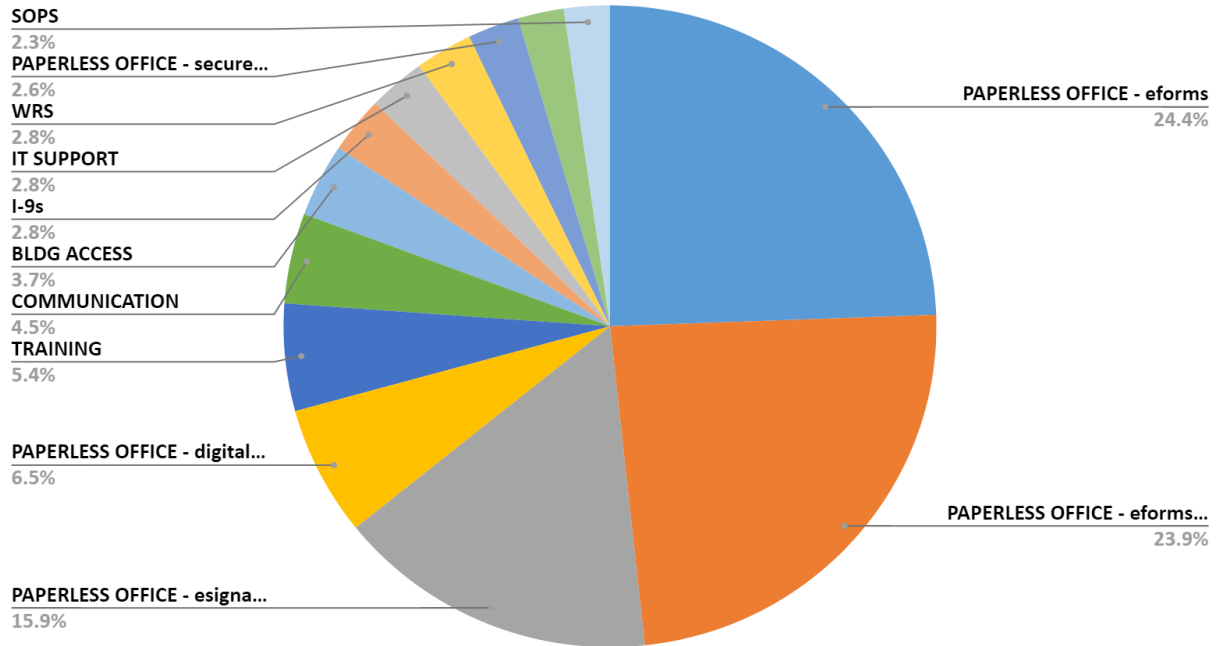
<u>Survey Responses</u>

We received good, substantive feedback from a large number of survey respondents, however, it is important to note that, due to the timing, we had minimal faculty input. As a result, the Task Force recommends that the faculty be provided the opportunity to respond to the findings and proposals detailed below when they return in the fall.

A compilation of all survey responses can be found [here](), and response counts by category are provided in [Appendix B.]() The same themes kept repeating themselves in the survey responses. The campus would like to see NC State move to an increasingly paperless environment (The Paperless Office), accompanied by the tools, resources, and culture to get us to that point. Virtual meetings are here to stay, and campus became facile with an increasing number of remote/virtual meeting tools, and would like to see the continuation of virtual meetings. Flexible work arrangements and tools of collaboration are also a legacy of the Pandemic and keeping and enhancing the tools and resources to support that was a common response in the survey. The following graphics provide an **<u>overview of the repeating themes in the survey results.:</u>**

WHAT TO KEEP/ENHANCE/EXPAND BY TOTAL UPVOTES

PAPERLESS OFFICE - file upl...
1.6%

PAPERLESS OFFICE - digital...
1.6%

MEETINGS
2.3%

IT SUPPORT - REMOTE SUP...
2.3%

PAPERLESS OFFICE - ePerfo...
2.5%

IT SUPPORT - RESOURCES
3.4%

HARDWARE
3.8%

FLEXIBLE WORK
3.4%

ONBOARDING
3.9%

COLLABORATION TOOLS
6.1%

PAPERLESS OFFICE - eforms
7.9%

PAPERLESS OFFICE - esigna...
11.7%

MEETINGS - virtual
26.5%

REMOTE WORK
19.5%

OTHER CANDIDATES FOR TRANSFORMATION BY TOTAL UPVOTES

- SOPS 2.3%
- PAPERLESS OFFICE - secure... 2.6%
- WRS 2.8%
- IT SUPPORT 2.8%
- I-9s 2.8%
- BLDG ACCESS 3.7%
- COMMUNICATION 4.5%
- TRAINING 5.4%
- PAPERLESS OFFICE - digital... 6.5%
- PAPERLESS OFFICE - esigna... 15.9%
- PAPERLESS OFFICE - eforms 24.4%
- PAPERLESS OFFICE - eforms... 23.9%

CHALLENGES TO TRANSFORMATION BY TOTAL UPVOTES

- COLLABORATION 3.0%
- PURCHASING 3.5%
- PRR 4.5%
- CULTURE 4.5%
- STANDARD PROCESSES 5.0%
- IT SECURITY 5.0%
- WORKLOAD MGMT 6.5%
- COMMUNICATION 6.5%
- FUNDING 8.0%
- OTHER 16.9%
- TRAINING 16.4%
- REMOTE WORK 12.4%
- COMPENSATION 8.0%
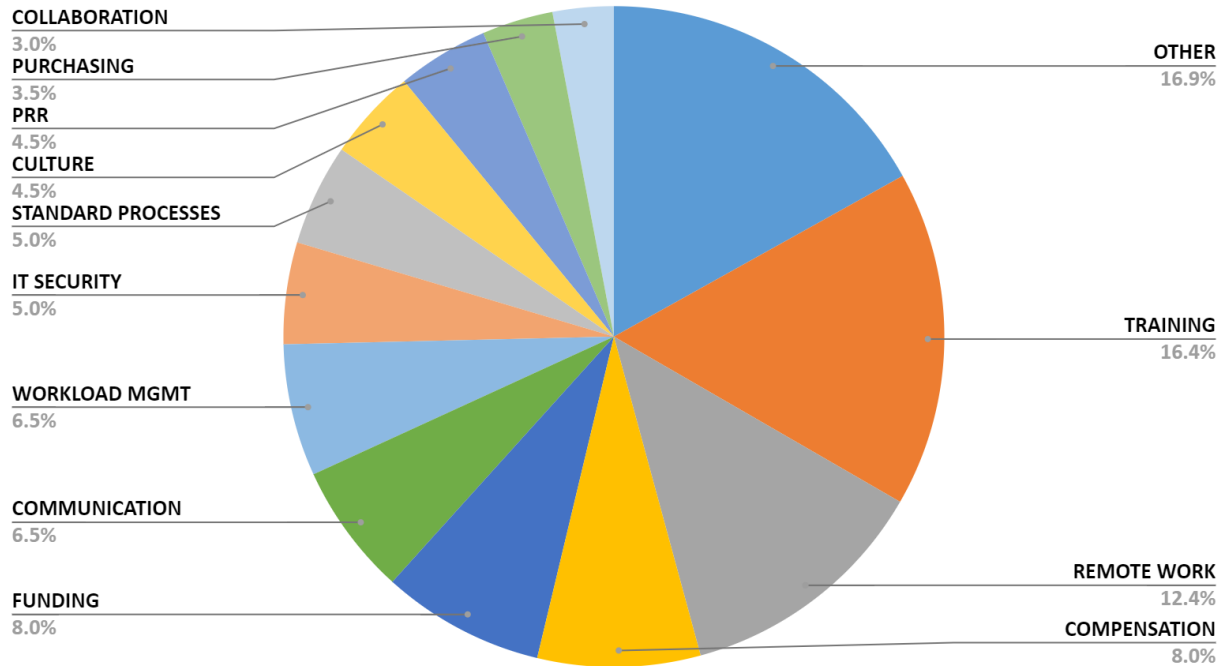
Findings and Proposals

Based on survey responses and task force discussions, the top 7 findings and proposals are listed in priority order below:

1. Embrace Virtual Meetings.
There is strong sentiment for retaining the use of virtual meetings and events among a large number of respondents. During the Pandemic, people became comfortable with the use of Zoom and Google Meet technology, and for many people it is the preferred method of meeting. Benefits of virtual meetings/events include:s eliminating travel time, reducing fossil fuel emissions, reducing demand for on-campus parking, allowing for greater employee participation, and improving efficiency.

The task force proposes that senior leadership support retaining virtual meetings as an effective part of our work culture and that a team be charged with developing standards and guidelines for meetings including:

- situations best suited for virtual vs. hybrid vs. in-person meetings*;
- audio/video equipment configurations for the best user experience;
- meeting software recommendations based on meeting requirements;
- recommended conference room configurations/equipment for hybrid meetings; and
- general scheduling/meeting etiquette.

    *The team felt that virtual meetings should be considered before face-to-face meetings with the exception of : 1) meetings lasting longer than three hours, 2) meetings requiring considerable in-person collaboration or 3) meetings intended to also provide networking opportunities (the Chancellor recently mentioned a desire to move the ALM meetings back to an in-person format to allow for networking). Many survey respondents felt that meetings involving routine business, or information sharing should always be handled virtually.

It is worth noting that the "How We Work" Task Force received similar feedback.

2. Strive for Paperless Offices.
The paperless office is not just an office that eliminates paper or wet signatures—but a digital office that creates an entire life cycle of electronic processing-- from the creation of forms, to electronic signatures or electronic approvals, to the electronic storage of information on campus. At every step of the life cycle, it facilitates efficiency savings, improved internal controls, and--when it comes to the electronic storage of information—the freeing up of physical space on campus.

<u>Digital Forms and Signatures</u>

Survey respondents repeatedly indicated they were forced to create digital versions of many campus-wide forms independently (equipment checkout, tuition waivers, etc.) and voiced strong support for the university to move to centrally-managed digital versions of these campus-wide forms and to support fully digital performance appraisals and work plans (with electronic approvals). They also articulated a great need for tools that would allow them to easily and quickly build their own forms with basic workflow/approvals. The task force reviewed the functionality of Forms Publisher (a relatively unknown university-approved Google Forms "add on" which is available today at no cost) and believes that campus could effectively leverage this tool if it were more widely advertised and training were provided.

In addition to forms with workflow/approvals, many campus units found the need to implement, or expand their use of, digital signature tools such as DocuSign and AdobeSign for signature processing. These tools are expensive, especially if contracts are negotiated at the unit level, and campus users are not always aware of the various requirements for e-signatures or the tiers of functionality provided by various tools (e.g. which tools do/do not comply with the Electronic Signatures in Global and National Commerce (ESIGN) Act and/or the Uniform Electronic Transactions Act and/or the requirements of digital accessibility).

The Task Force proposes that the university: investigate various digital form and signature tools (ServiceNow, Forms Publisher, Google Forms, Kuali Build, DocuSIgn, Adobe Sign, etc.); develop recommendations for solutions for various situations (e.g. no-cost tools to collect on-campus esignatures or build forms with basic routing, fee-based tools to use for signature authority involving external customers or for more complex forms, etc.); negotiate contracts at an enterprise level; provide training for recommended solutions; establish standards for university-sanctioned formatting, branding, accessibility support, etc.; and develop central expertise and training to assist the campus users . This approach allows the campus to meet its digital form and signature needs in the most efficient and cost-effective manner possible. The Task Force also encourages Vice Chancellors Maimone and Hoit to continue to support the implementation of the ePerformance Management module within the HR System which will support fully digital performance appraisals and work plans.

<u>Digital Files</u>

The need to support widespread remote work during the pandemic necessitated the move to electronic storage of paper-based documents for a number of departments. The electronic storage of information on campus has multiple benefits—not the least of which is freeing up physical space once occupied by paper file cabinets. Other benefits

include: the ability to move data from local storage to shared storage systems thereby providing the ability to share the data more broadly (as appropriate) and access the data from anywhere (with appropriate access rights); the reduction of institutional risk by placing data in protected, backed-up, secure locations; compliance with university records retention rules and data security requirements; and the codification of institutional memory-- simply the ability to find the information we need without needing someone to explain where it (the information we need) can be found. Google Shared Drives and OnBase have been utilized on-campus by numerous departments to meet these needs and the Task Force proposes that the university investigate where leveraging these technologies more broadly would be cost-effective.

A challenge in completing this transition across the university is the labor involved in the conversion of paper documentation to digital storage, the definition of record-retention requirements, and the development of reference systems so that the material can be readily discovered. It is a time consuming process, requiring resources for scanning and setting up appropriate reference systems. One plausible solution to this challenge is our WolfCopy team which services the multi-functional devices on campus. The technicians on the team were repurposed during the Pandemic to other tasks because of a reduction in printing on campus. While the multi-functional devices are critical to the scanning of digital documents, the personnel in this group could be repurposed as a digital swat team, meeting with units and groups to assist with the scanning function and working with OIT on the back end to move the information to OnBase. Another challenge is that expanding OnBase across the university may require additional licensing expense and/or additional support personnel.

Other initiatives that reduced dependence on paper which should be expanded include converting publication subscriptions from hardcopy to digital versions and providing secure file upload capabilities (using ShareBase).

Survey respondents expressed a need for appropriate training (particularly video-based training) in order to effectively adopt new or expanded digital processes/tools such as collaboration software (e.g. the Google suite). They also noted that supervisor support in managing workload to allow time for appropriate training was crucial to the successful adoption of digital transformations.

3. Leverage Electronic Collaboration and Coordination Tools.
A number of groups indicated they increased the use of tools such as Google Docs, Google Sheets, Google Shared Drives, Monday.com, Wrike, GlobalHome and Trello to coordinate work and facilitate collaboration across remote workers. These tools will continue to increase productivity and collaboration as we return to campus, however, many across campus are unaware of, or lack proficiency in, the use of these tools and are unable to leverage them fully. The Task Force proposes that the university investigate the best approach to ensuring that

campus users are aware of collaboration tools that already exist on campus (particularly those available at no additional cost) and become proficient in their use of these tools.

4. Minimize Cash Collections on Campus.

We heard from Maria Brown, Director, University Cashier's Office, about cash collection practices on campus. The University Cashier's Office is interested in moving the campus away from cash collections. The Cashier's Office stopped collecting cash from students in 2008, but continues to serve as the primary collection point for businesses on campus. Prior to the Pandemic, Parking eliminated the collection of cash from metered parking on campus, and during the Pandemic, Campus Enterprises discontinued cash collection on campus. While there were certainly fewer students on campus this past year, Campus Enterprises reports there was no pushback from the campus customers. Very little cash was collected within other units and colleges—and we believe this practice could be eliminated (as indicated by survey responses). There was a concern about stopping cash collections off main campus and some concern about the ability to cease cash collections from customers at the Terry Animal Hospital and Athletics. Therefore, our conclusion is that we should distinguish between on-campus and off-campus customers in going cashless. It will be easier to stop collecting cash at points on campus (academic units and colleges are a good example) that are open primarily to internal customers, but continue to allow cash collections for the largest enterprises serving the public (Vet Hospital, Athletics).

5. Increase Mobile Payment Processing.

In response to a concern about being able to accept credit card payments without significant compliance risks, we heard from Heidi Kozlowski, Associate Controller, about the use of BlueFin technology with OIT supported laptops and from Sharon Loosman about the use of Digital Wallets and prepaid card technology. Bluefin technology can be used in conjunction with OIT managed desktop technology to provide mobile payment processing capabilities while avoiding the challenges associated with PCI compliance (especially for Cooperative Extension Offices) and the costs of wireless devices to serve locations off campus. We have concluded that digital wallets can be easily used for travel from the Pcard, and we can use prepaid card technology to reimburse research subjects.

6. Enable Effective Digital Transformations Across the Enterprise.

To minimize digital sprawl and maximize efficiency and effectiveness in deploying digital solutions, the Task Force proposes that the university:
- create teams to evaluate and recommend critical tools that enable digital transformation; recommendations should include tiers of solutions where appropriate;
- develop infrastructure, policies, and resources (using central funding where appropriate) that are critical to enabling digital transformations across the enterprise; this should be coordinated with groups such as the Strategic IT Committee as necessary; and
- develop guidance (to be included as part of the IT Purchase Compliance process) for digital tool purchases covering topics such as:

- - where practical and cost-effective, leveraging solutions which have already been approved for use on campus;
  - selecting collaborative solutions where possible; and
  - ensuring that selected solutions provide support for required data security.
- establish an ongoing virtual Digital Transformation Center of Expertise
  - led by Digital Transformation Ambassador/Coordinator
  - work across campus units to develop high level digital transformation plans and coordinate cross-team activities as appropriate;
  - make recommendations regarding where enterprise digital solutions should be provided;
  - oversee the creation of a digital transformation information and resources web site; and
  - work closely with campus groups such as IT governance teams (the Campus IT DIrectors, etc.) and Security & Compliance to advance digital transformation across the enterprise.

Overlap with the "How We Work" Task Force

A number of points were frequently raised in our surveys which fell more within the charge of the "How We Work" Task Force but we feel are worthy of mention here.

- Of particular note, survey respondents repeatedly emphasized the importance of flexible work schedules and, more significantly, remote work (support for remote work was second only to support for virtual meetings in the survey responses). Benefits cited include improved employee job satisfaction, more cost effective space utilization, higher employee retention and the ability to better compete with both the public and private sectors. As a result, the Task Force believes the university would be well served to retain and fully support these aspects of campus work through initiatives such as:
  - supporting flexible work arrangements including remote work where appropriate;
  - moving to laptops with docking stations as standard computing equipment (vs. the current standard of a desktop computer);
  - providing virtual onboarding and benefits orientation while retaining the I-9 Center UHR created during the pandemic (this provided new employees with an easy-to-access location to complete their I-9s with staff well-versed in the process); and
  - **providing flexible parking permit options, or encouraging the use of daily parking?**
- Survey respondents commented frequently on the positive impact that enhanced communications have had throughout the last 17 months, citing examples such as analytics/dashboards providing up-to-date information on the COVID response, weekly brief supervisor check-ins, the intentional check-ins many managers held with employees, and

increased communication from senior management. The use of multiple communication channels was particularly helpful.

The above points have been shared with the How We Work Task Force.

APPENDIX A - CAMPUS GROUPS SURVEYED

1. Academic Dept Heads
2. Business Connections
3. Business Enterprises Leadership
4. Business Partners (HR and Business partners)
5. CITD (Campus IT Directors), CITD Forum (IT staff across campus)
6. Compliance Officials Working Group
7. County Extension (HR, IT, etc) Research Stations, and Field Labs
8. Enterprise Application Committee (IT governance group)
9. Enterprise Applications Data Stewards
10. Faculty Senate
11. HR Exchange/HRAC
12. ISAG (IT governance group)
13. Lead Business Officers
14. NAG (IT support staff across campus)
15. OFA Business Officers/AVCs' Offices
16. OIT
17. Research Administrators (RSC, Research Support Council)
18. Staff Senate
19. Women In Tech

APPENDIX B - SURVEY RESULTS SUMMARY

WHAT TO KEEP/EXPAND/ENHANCE (CATEGORY TOTALS BY DESCENDING UPVOTES)	
CATEGORY	**UPVOTES**
MEETINGS - virtual	188
REMOTE WORK	138
PAPERLESS OFFICE - esignatures	86
PAPERLESS OFFICE - eforms	56
COLLABORATION TOOLS	43
ONBOARDING	28
FLEXIBLE WORK	24
HARDWARE	27
IT SUPPORT - RESOURCES	24
PAPERLESS OFFICE - ePerformance Mgmt	18
IT SUPPORT - REMOTE SUPPORT	16
MEETINGS	16
PAPERLESS OFFICE - digital files	11
PAPERLESS OFFICE - file uploads (including secure)	12
CASHLESS PAYMENTS	10
COMMUNICATION	8
TRAINING	8
ANALYTICS	7
DECISION MAKING	7
VISA MGMT	7
IT SUPPORT	6
MOBILE RESOURCES	6
PARKING	4
GATHERING FEEDBACK	3
DEPOSITS	2
OTHER TASK FORCE	2
PAPERLESS OFFICE	3
PARKING - online permits	2
CASHLESS PAYMENTS - digital wallets	1
CHANGE MGMT	1
MOBILE PAYMENT PROCESSING	1
PRR/SOP	1
SOFTWARE	1
SPACE	1
GRAND TOTAL	**768**

APPENDIX B - SURVEY RESULTS SUMMARY (continued)

OTHER OPPORTUNITIES FOR TRANSFORMATION (CATEGORY SUBTOTALS BY DESCENDING UPVOTES)	
CATEGORY	**UPVOTES**
PAPERLESS OFFICE - eforms	86
PAPERLESS OFFICE - eforms, performance mgmt	84
PAPERLESS OFFICE - esignatures	56
PAPERLESS OFFICE - digital files	23
TRAINING	19
COMMUNICATION	16
BLDG ACCESS	13
I-9s	10
IT SUPPORT	10
WRS	10
PAPERLESS OFFICE - secure file uploads	9
REMOTE WORK	8
SOPS	8
BUDGET TOOL	6
HARDWARE	6
COLLABORATION	5
PROJECT MGMT, COMMUNICATION	5
COMPUTER LABS	4
CRM	4
DEPOSITS	4
PAPERLESS OFFICE - e-invoices	4
BILLING	3
CASHLESS PAYMENTS	3
FLEXIBLE WORK SCHEDULES	3
OTHER	3
PAPERLESS OFFICE - Faxing	3
PROJECT MGMT	3
VIRTUAL MEETINGS	3
MOBILE TICKETING	2
COLLABORATION TOOLS	1
EMPLOYEE HEALTH	1
GENERAL	1
HARDWARE/SOFTWARE	1
MEETINGS - virtual	1

OTHER OPPORTUNITIES FOR TRANSFORMATIONS CONT. (CATEGORY SUBTOTALS BY DESCENDING UPVOTES)	
CATEGORY	UPVOTES
MEETINGS	1
ONECARD	1
PAPERLESS OFFICE	1
PAPERLESS OFFICE - records retention	1
PAPERLESS OFFICE - secure file uploads	1
PURCHASING	1
RED SYSTEM	1
SPACE	1
TRAVEL	1
VIRTUAL EVENTS	1
VIRTUAL IDS	1
VPN	1
GRAND TOTAL	430

APPENDIX B - SURVEY RESULTS SUMMARY (continued)

CHALLENGES TO TRANSFORMING (CATEGORY SUBTOTALS BY DESCENDING UPVOTES)	
CATEGORY	UPVOTES
OTHER	34
TRAINING	33
REMOTE WORK	25
COMPENSATION	16
FUNDING	16
COMMUNICATION	13
WORKLOAD MGMT	13
IT SECURITY	10
STANDARD PROCESSES	10
CULTURE	9
PRR	9
PURCHASING	7
COLLABORATION	6
MEETINGS - virtual	5
FLEXIBLE WORK	4
INEFFICIENT SYSTEMS	4
PAPERLESS OFFICE - esignatures	4
HARDWARE/SOFTWARE	3
RESISTANCE TO CHANGE	3
CASHLESS PAYMENTS	2
SPACE	1
STAYING CONNECTED	1
GRAND TOTAL	228